

**Remarks****I. The Office Action**

The May 22, 2006 non-final Office Action (the "Office Action") in this application:

1. rejected claims 1 and 8-9 under 35 U.S.C. 103(a) as unpatentable over Anderson et al. in view of Sugiyama et al.;
2. rejected claims 17, 24-25 and 28-31 under 35 U.S.C. 103(a) as unpatentable over Anderson et al. in view of Sugiyama et al.;
3. rejected claims 17 and 24-25 under 35 U.S.C. 112, 2<sup>nd</sup> paragraph; and
4. rejected claims 30-31 under 35 U.S.C. 112, 2<sup>nd</sup> paragraph.

Applicants respond to the Office Action as follows.

II. Rejection of Claims 1, 8 and 9 under 35 U.S.C. 103(a)

The Office Action rejects claims 1, 8 and 9 under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. in view of Sugiyama. Respectfully, the rejection is in error and should be withdrawn.

Anderson discloses treating patients suffering from spasmodic torticollis, also known as cervical dystonia, with botulinum toxin type A. Beyond that, Anderson discusses trying to overcome antibody formation in spasmodic torticollis patients who have received botulinum toxin type A by administering a higher dose of the type A toxin to them. As disclosed in Anderson, spasmodic torticollis is a spasmodic head and neck muscle disorder. Significantly, Anderson does not teach or suggest use of any botulinum toxin other than a type A botulinum toxin.

Sugiyama is a review article published in a microbiology journal which discusses various pharmacological aspects of the *Clostridium botulinum* neurotoxins including toxicities, structural and binding aspects. Importantly, there is no disclosure in Sugiyama of any therapeutic or clinical use of combinations of botulinum toxin types.

There is no motivation to combine Anderson and Sugiyama at least because Sugiyama (unlike Anderson) does not discuss use of botulinum toxin to treat cervical dystonia, or how to overcome antibody formation in patients previously treated with botulinum toxin type A. Even if Anderson and Sugiyama could properly be combined, all that the combination would teach is that the type A botulinum toxin used by Anderson could possibly be replaced by one of the other botulinum types disclosed by Sugiyama. For example, the combination of Anderson and Sugiyama may teach that the problem in Anderson of antibodies forming to type A toxin may be overcome by using another type of botulinum toxin.

All claims in this applications are limited to a method for treating a patient suffering from a neuromuscular disorder by administering at the same time a type A and a type B or type E botulinum toxin.

Clearly there is no teaching or suggestion either individually or in a combination of Anderson and Sugiyama to "administer simultaneously" (all claims) a botulinum toxin type A and a type B or E botulinum toxin. All claims in this application are so limited. Additionally, there is no teaching or suggestion, either individually or in a combination of Anderson and Sugiyama, botulinum toxins A with type B or E to achieve a desired effect and provide a short duration of that effect along with long term relief (all claims).

The case law cited on pages 5-6 of the Office Action does not appear to be applicable. *In re Kerkhoven*, *In re Crockett*; *In re Geiger* and *Ex parte Quandranti*, cases cited in the Office Action (copies attached) address only the use or combinations of materials that are each individually *known* to provide a particular effect or function. *In re Kerkhoven*, the general combination of spray drying, at the same time, a combination of two *known detergents* was held *prima facie* obvious. *In re Crockett*, the use of magnesium oxide and calcium carbide, where *each was known* to promote the formation of nodular structures in case iron, a combination of the two components was held to be unpatentable. In *Ex parte Quandrani*, the combination of two *known* herbicides was held to be *prima facie* obvious. *In re Geiger*, "Based upon the prior art and the fact that each of the three components of the composition used in the claimed method is conventionally employed in the art for treating cooling water systems, the board held that it would have been *prima facie* obvious, within the meaning of 35 U.S.C. 103, to employ these components in combination for their known functions and to optimize the amount of each additive....". It is interesting to note that in *In re Kerkhoven*, it was found that the appellant appeared to be the first to combine spray drying of two slurries of detergents each having a particular property (one

detergent slurry being anionic and the other nonionic), the Board being reversed as to its rejection of this claim. Furthermore, *In re Geiger*, the Boards' finding of *prima facie* obviousness of the combination of the three components was reversed, and the court also concurred with the appellant's argument regarding the PTO's use of hindsight reconstruction or, at best, "obvious to try" approach to rejecting the claims.

Thus, the cases in the Office Action are very distant from the instant case, because the combination of Anderson and Sugiyama fails to teach or suggest that the various claimed botulinum toxins types A and B and E were *known* to be effective in providing an enhancement of relief of muscle contraction for a short duration, and long term relief for treating the neuromuscular disorder or condition *at the time of the effective filing date of the present application*. This is the claimed effect of the *claimed combination* of botulinum toxin type A with type B or E, and is not to be found in either Anderson or Sugiyama, alone or in combination.

As stated on page 4 of the Office Action, and as discussed in Sugiyama the various botulinum toxins types have different pharmacological characteristics, such as toxicities and ability to be detoxified. Contrary to the statement on pages 4-5 of the Office Action, these differences between the botulinum toxin types would *not* seem to suggest to one of ordinary skill in the art administration of a combination of botulinum toxins type A with type B or E simultaneously. This is because the differential binding that the Office Action refers to is not a general statement of Sugiyama, but rather relates to only a supposition that synaptosomal receptors for botulinum toxin types B and E *may not* be the same, since radiolabeled cross-inhibition studies of toxin types B and E indicated a lack of cross-inhibition (Sugiyama, pages 435-436). This is not applicable or related to the presently pending claims, where the combination of toxin type A with toxin type B or E is specified. Furthermore, Sugiyama's disclosure on page 427, regarding relative detoxification of various toxin complexes by pepsin, pancreatin,

gastric and intestinal juices is related to botulinum food poisoning and is irrelevant to the present claims, which are directed to the combination of at least two neurotoxins including an amount of each selected neurotoxin such that the combination is effective in providing an enhancement of relief of muscle contraction for a short duration, and long term relief for treating a neuromuscular disorder or condition.

It appears that it is only through hindsight reconstruction of the art that the presently claimed method could be found in a combination of Anderson and Sugiyama. At best, an "obvious to try" approach of substituting the other botulinum toxin types (B to G) of Sugiyama for the botulinum toxin type A disclosed in Anderson may be suggested by the combination. However, such an "obvious to try" approach is improper, as found by the Court *In re Geiger*.

It has been held that "... that a person of ordinary skill in the art must not *only* have had *some motivation* to combine the prior art teachings, but *some motivation* to combine the prior art teachings in *the particular manner claimed*. See, e.g., *In re Kotzab*, 217 F.3d 1365, 1371 (Fed. Cir. 2000) (emphasis added, copy attached). Thus, at least because: (a) there is no motivation to combine Anderson and Sugiyama, and; (b) the combination of Anderson and Sugiyama does not provide the claimed invention, the rejection should be withdrawn.

III. Rejection of Claims 17, 24, 25 and 28-31 under 35 U.S.C. 103(a)

The Office Action rejects claims 17, 24, 25 and 28-31 under 35 U.S.C. 103(a). Claims 17, 24-25 and 28-31 have been cancelled. Hence the rejection should be withdrawn.

IV. Rejection of Claims 17, 24 and 25 under 35 U.S.C. 112, second paragraph

The Office Action rejects claims 17, 24 and 25 under 35 U.S.C. 112, second paragraph. Claims 17 and 24-25 have been cancelled. Hence the rejection should be withdrawn.

V. Rejection of Claims 30 and 31 under 35 U.S.C. 112, second paragraph

The Office Action rejects claims 30 and 31 under 35 U.S.C. 112, second paragraph. Claims 30-31 have been cancelled. Hence the rejection should be withdrawn.

VI. Conclusion

All issues raised in the Office Action have been addressed. Examination and allowance of claims 1 and 8, 9 is requested.

Respectfully submitted,

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CERTIFICATE OF EXPRESS MAIL UNDER 37 C.F.R. § 1.10

I hereby certify that this Amendment and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this date August 22, 2006 in an envelope as "Express Mail Post Office to Addressee" Mailing Label number **EV763326379US** addressed to Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Adriane Giberson  
Name of person mailing paper

  
\_\_\_\_\_  
Signature of person signing paper

Date: AUGUST 22, 2006

Attachments: *In re Kerkhoven*; *In re Crockett*; *In re Geiger*; *Ex parte Quadranti*;  
and *In re Kotzab*

[6] In addition, counsel for Davis et al. observe that the Frederiksen notes do not show the *level* associated with the idle upturn function, but merely the downslope of the waveform at the idle upturn breakpoint. The failure of the notes to show this feature is fatal. A party claiming conception must show possession of every feature recited in the counts. This means that every limitation of the counts must be shown to have been known to the inventor at the time the invention is alleged to have been conceived. Schur v. Muller, 34 CCPA 1093, 1100, 372 F.2d 346, 551, 152 USPQ 605, 609 (1967); Anderson v. Anderson, 403 F.Supp. 834, 846, 188 USPQ 194, 203 (D. D.C. 1975). The board has correctly found that the counts require a three-level waveform. Therefore, any proof of conception must show a three-level waveform by a preponderance of the evidence. Reddy's proofs fail to show it and are thus deficient.

None of the other evidence submitted by Reddy shows existence of this feature of the invention at the time of the meeting.

[7] "There can be no derivation without prior conception on the part of the party alleging derivation." Egnor v. Looker, 55 CCPA 782, 789, 387 F.2d 680, 687, 156 USPQ 136, 142 (1967). Since we have held that Reddy has failed to prove conception of the invention prior to the meeting by a preponderance of the evidence, it follows that he has also failed to prove derivation of the invention by Davis et al. at the meeting.

The decision of the board awarding priority of counts 1-6, 8, and 9 to Reddy is *reversed*.

*Reversed.*

#### Court of Customs and Patent Appeals

In re Kerkhoven

No. 79-586

Decided May 15, 1980

#### PATENTS

##### 1. Patentability — Composition of matter (§51.30)

##### Patentability — Invention — Specific cases — Chemical (§51.5093)

It is *prima facie* obvious to combine two compositions each of which is taught by prior art to be useful for same purpose in order to form third composition that is to be used for very same purpose; idea of com-

bining them flows logically from their having been individually taught in prior art; thus, claims that require no more than mixing together of two conventional spray-dried detergents set forth *prima facie* obvious subject matter.

##### 2. Patentability — Composition of matter (§51.30)

##### Patentability — Evidence of — Comparison with allowed claims or patents (§51.457)

Comparative test data that is not commensurate with claims' scope offered as evidence of superiority of claimed method does not rebut *prima facie* case of obviousness.

##### 3. Patentability — Composition of matter (§51.30)

##### Patentability — Invention — In general (§51.501)

##### Patentability — Invention — Specific cases — Chemical (§51.5093)

##### Patentability — New use or function — Nonanalogous art (§51.557)

Problem of how to introduce more than one color into detergent and problem of how to improve flow characteristics of mixed-active detergent are quite remote; mere knowledge that simultaneous spray-drying multiple slurries was useful technique in production of multi-colored detergents would not have suggested anything about effect of simultaneous spray-drying slurries having different active detergent contents, one being primarily if not exclusively anionic in nature and other being primarily if not exclusively nonionic in nature, on flow characteristics of final mixed-active product; claimed process, considered as a whole, as required by 35 U.S.C. 103, would not have been *prima facie* obvious to one skilled in art at time invention was made where one skilled in art working at that time on problem invention solved would not have been motivated or guided by prior art to arrive at claimed process.

##### Particular patents — Detergent

Kerkhoven, Production of Detergent Compositions, rejection of claims 2-4, 9, and 14 affirmed; rejection of claim 5 reversed.

Appeal from Patent and Trademark Office Board of Appeals.

Application for patent of Frederik Johan Kerkhoven, Serial No. 501,956, filed Aug. 30, 1974. From decision rejecting claims 2-5.

9, and 14, applicant appeals. Modified; Miller, Judge, with whom Markey, Chief Judge, joins, dissenting in part with opinion.

James J. Farrell, Edgewater, N.J., for appellant.

Joseph F. Nakamura (Gerald H. Bjorge, of counsel) for Commissioner of Patents and Trademarks.

Before Markey, Chief Judge, Rich, Baldwin, and Miller, Associate Judges, and Newman,\* Judge.

Newman, Judge.

This is an appeal from the decision of the United States Patent and Trademark Office (PTO) Board of Appeals (board) sustaining the examiner's rejection under 35 USC 103 of claims 2-5, 9 and 14 of application serial No. 501,956, filed August 30, 1974, for "Production of Detergent Compositions." We modify.

#### Background

##### *The Invention*

Appellant claims a process for the production of particulate detergent compositions containing a mixture of anionic and nonionic active detergent materials. Appellant explains in his specification that the detergent-making art often prefers such detergents to achieve optimal detergent properties, and he notes that the most commonly used active detergent combination is a mixture of anionic fatty acid soaps, anionic synthetic non-soap detergents, and nonionic detergents. Detergents made from this combination of ingredients are called mixed-active detergents.

Appellant's invention is generic in the sense that it covers two separate and distinct methods of producing mixed-active particulate detergents, each method including the common step of forming at least two slurries<sup>1</sup> of detergent ingredients, the active detergent content of one slurry being primarily if not exclusively anionic in nature and the active detergent content of the other slurry being primarily if not exclusively non-

ionic in nature. Under one of these methods, the slurries are independently dried and the resulting products are mixed. Under the other method, the slurries are simultaneously dried and mixed.

Appealed claims 2-4, 9 and 14 are drafted broadly enough to cover both of these modes of operation. Claim 14 is illustrative:

14. A process for preparing a spray-dried detergent composition comprising by weight 5-80% of builders, 0-50% fillers and 5-60% of active detergent materials consisting essentially of a mixture of 20-80% by weight of anionic detergents of which 10-90% by weight is a fatty acid soap, and 80-20% by weight of nonionic detergents, which process comprises forming approximately equal proportions of at least two aqueous slurries A and B, slurry A being composed of a builder slurry incorporating therein an active detergent component consisting essentially of 60-100% by weight of anionic detergents and 0-40% by weight of nonionic detergents, slurry B being composed of a builder slurry incorporating therein an active detergent component consisting essentially of 0-40% by weight of anionic detergents and 60-100% by weight of nonionic detergents, treating said slurries as separate streams in at least one spray-drying equipment and collecting/mixing the dried products to form a homogeneous mixture of particulate material comprising said detergent composition.

Appealed claim 5, however, is limited to only the simultaneously dry and mix method. Claim 5 reads as follows:

5. A process according to claim 14, in which slurries A and B are spray-dried simultaneously in one spray-drying tower through separate nozzle systems, having points of entry on the tower at substantially equal height level of the tower.

According to appellant, the conventional manner of making mixed-active particulate detergents had been to mix all of the ingredients together in one slurry and then spray-dry the slurry. Appellant alleges that this single-slurry technique produces detergents having poor flow characteristics, whereas his multi-slurry methods produce detergents having excellent flow characteristics.

To prove this, appellant conducted tests comparing the flow characteristics of detergents made by these processes. The results from these tests show that mixed-ac-

\* The Honorable Bernard Newman, United States Customs Court, sitting by designation.

<sup>1</sup> An anionic substance is one which is negatively charged.

<sup>2</sup> A nonionic substance is one which is electrically neutral, that is, it does not have either a positive or negative charge.

<sup>3</sup> A slurry is a watery mixture or suspension of insoluble matter.

tive detergents made according to both of the claimed multi-slurry methods had good flow characteristics. On the other hand, detergents comprising the same ingredients made by the above-described single-slurry process had poor flow characteristics. The tests, however, did not compare the flow characteristics of compositions containing partially prehydrated sodium tripolyphosphate builder.

#### *The Prior Art*

The PTO has cited the following references as prior art:

Coffey<sup>1</sup> describes a process for the production of mixed-active particulate detergents having good flow characteristics. Coffey uses a single slurry technique, i.e., all the ingredients are mixed together in one slurry which is then spray-dried. According to Coffey, his detergents have good flow characteristics because he includes in the slurry partially prehydrated sodium tripolyphosphate builder.

Cavataio<sup>2</sup> and Tofflemire<sup>3</sup> disclose processes for the production of multicolor particulate detergents. The multi-color effect is achieved by simultaneously spray-drying a natural colored detergent slurry and a colored detergent slurry through separate nozzles in the same spray-drying tower. In Tofflemire, the nozzles are at the same height in the tower.

Colgate<sup>4</sup> teaches mixed-active detergents having enhanced soil-suspending properties. The flow characteristics of these detergents are not discussed.

Ruff<sup>5</sup> discloses anionic spray-dried detergents and nonionic spray-dried detergents having tarnish inhibiting properties.

#### *Examiner's Rejection*

The examiner rejected all of the appealed claims under 35 USC 103 as unpatentable either over Cavataio in view of Colgate, Coffey, Ruff and Tofflemire, or over Colgate and Coffey in view of Cavataio, Ruff and Tofflemire. He explained that the claims require no more than the mixing of two conventional spray-dried detergent compositions, and concluded that the mere mixing of two compositions each taught for the same purpose, in the absence of a showing of unexpected results, is obvious. In support of this proposition, the examiner cited *In re Crockett*, 47 CCPA 1018, 279 F.2d 274, 126 USPQ 186 (1960).

The examiner determined that appellant had not demonstrated any unexpected advantage for the claimed process. He pointed out that although the claims encompass the use of prehydrated sodium tripolyphosphate builder, appellant had not shown that the product produced from his process was superior to that obtained from Coffey's process, when prehydrated sodium tripolyphosphate was used. The examiner also noted that appellant had not demonstrated that Colgate's product had poor flow characteristics.

In his original rejection, the examiner did not comment on the independent patentability of claim 5. However, in the examiner's Answer to appellant's brief before the board, the examiner acknowledged that claim 5 presented the additional issue of whether it would be obvious to spray dry the two compositions simultaneously in one tower through separate nozzles at an equal height level. The examiner concluded that this would have been obvious, reasoning:

Appellant has neither argued nor demonstrated that this method of simultaneous spray drying in a single tower provides any unexpected results. Further, this process would be suggested by the teachings in Tofflemire and appellant's admission in the sentence bridging pages 27 and 28 of his brief that "given the long standing practice of spray drying with a multiplicity of nozzles, the possibility of introducing separate streams to any or all of these separate nozzles would be obvious to anyone of ordinary skill in the art". [Emphasis in original.]

Appellant responded to this point in his reply brief before the board with the following:

The Examiner's arguments with respect to claim five, that applicant has

admitted the possibility of introducing separate streams to any or all of separate nozzles as being obvious, does not relate to whether one skilled in the art would actually do such a thing without applicant's teaching. Indeed to argue the impossibility of introducing separate slurries to separate nozzles and spray drying them simultaneously would be fruitless.

Tofflemire is directed to producing a multicolored particulate detergent and has nothing to do with combining two slurries such as applicant has claimed.

#### *Board's Rejection*

The board affirmed the examiner's rejection adding that in its opinion one skilled in this art, knowing that individual detergents or certain mixtures of detergents produce particles having good free-flow characteristics, would understand that the detergents desired in the final composition may be dried separately and then mixed. The board did not address the issue of the independent patentability of claim 5.

#### *Appellant's Argument*

Appellant contends that there is no suggestion in the prior art to split the active detergents into two specific slurries and spray-dry them either simultaneously to obtain a final product or separately and then mix them to obtain a final product. Therefore, appellant argues, no *prima facie* case of obviousness exists, and a showing of unexpected results is not required.

Appellant maintains that, as was the case in *In re Sponnoble*, 56 CCPA 823, 405 F.2d 578, 160 USPQ 237 (1969), appellant's invention here is the discovery of the source of a problem and the finding of a solution for that problem. Appellant points out that none of the cited references except Coffey recognized the problem here, and that Coffey employed a different route to solve it.

Appellant notes that claim 5 which calls for simultaneous spray-drying is even more remote from the examiner's references than the other appealed claims. Appellant submits that the process of claim 5 would not be performed by the mere mixing of two known spray-dried detergents.

#### *Solicitor's Argument*

The solicitor asserts that one of ordinary skill in the art — faced with the problem of poorly flowing mixed-active detergents prepared by spray-drying one slurry containing all detergents, and armed with the knowledge that detergent compositions do

not present such difficulties if the active detergent component is not a mixture of different active detergents — would readily understand that the detergents desired in the final composition may be dried separately and then mixed. He submits that the problem and its source were known, and that the solution thereto claimed herein would have been obvious.

In his brief, the solicitor does not address the issue of the independent patentability of claim 5. When asked to comment on the rejection of claim 5 at oral argument, the solicitor stated that the basis for the PTO's case of obviousness for claim 5 was: (1) appellant's description of the prior art before the board, wherein appellant stated that Cavataio makes detergent compositions by spray drying two detergent slurries of different chemical composition simultaneously in a tower; (2) the disclosure in Tofflemire that shows the feature of simultaneous spray-drying two slurries from the same height in a spray-drying tower; and (3) appellant's admission that simultaneous spray-drying of two detergent slurries was known.

#### *Opinion*

[1] It is *prima facie* obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition which is to be used for the very same purpose. *In re Susi*, 58 CCPA 1074, 1079-80, 440 F.2d 442, 445, 169 USPQ 423, 426 (1971); *In re Crockett*, 47 CCPA 1018, 1020-21, 279 F.2d 274, 276-77, 126 USPQ 186, 188 (1960). As this court explained in Crockett, the idea of combining them flows logically from their having been individually taught in the prior art. In the case at bar, appealed claims 2-4, 9 and 14 require no more than the mixing together of two conventional spray-dried detergents. Thus, these claims set forth *prima facie* obvious subject matter.

[2] The comparative test data offered by appellant as evidence of the superiority of this claimed method does not rebut the *prima facie* case of obviousness because it is not commensurate in scope with the claims. The claims are broad enough to cover multi-slurry-produced detergent compositions containing partially pre-hydrated sodium tripolyphosphate builder. Coffey teaches that single-slurry-produced detergent compositions containing this builder have good flow characteristics. Appellant's attorney admits that appellant has not run any tests comparing his multi-slurry-produced

detergent compositions containing this builder with Coffey's single-slurry-produced detergent compositions containing this builder. Thus, appellant has failed to prove the superiority of his multi-slurry technique over the prior art's single-slurry technique for the production of detergent compositions containing this builder. Having failed to do this, appellant has not proven the superiority of the multi-slurry technique over the single-slurry technique for all compositions covered by the claims.

*Claim 5*

In review of this application, the board lumped claim 5 together with the rest of appellant's claims. Appellant specifically objects to this treatment — and we agree.

Claim 5 sets forth an alternative process for making a mixed-active spray-dried particulate detergent. Whereas the other claims on appeal include in their coverage the process of merely combining a known anionic spray-dried particulate detergent with a known nonionic spray-dried particulate detergent to form a mixed-active particulate detergent product, claim 5 is limited to the process of making a mixed-active particulate detergent product by simultaneously spray-drying through separate nozzle systems in one spray-drying tower one detergent slurry, having an active detergent content of 60-100% anionic and 0-40% nonionic, and another detergent slurry having an active detergent content of 60-100% nonionic and 0-40% anionic.

Searching the references, we find no support for the PTO's *prima facie* case of obviousness for claim 5. Coffey, the only reference which describes a prior art method for obtaining good-flowing mixed-active particulate detergents, does not use simultaneous spray-drying, but rather teaches a single-slurry technique that requires partially pre-hydrated sodium tripolyphosphate builder.

Coffey explains that it was an object of his invention "to enable the production of satisfactory detergent compositions comprising appreciable proportions of [nonionic active detergent ingredients]." According to Coffey, "it [had] not been readily possible, [prior to Coffey's invention], to make acceptable detergent compositions in powdered or granular form incorporating appreciable quantities of [nonionic active detergent ingredients], \* \* \*, as such compositions [were] sticky and [had] poor flow properties rendering their production and packaging difficult and so making them unsatisfactory for commercial use." Coffey discloses,

however, that under his invention: "Such compositions may be made with good flow properties and texture which are retained during storage, \* \* \*." The "essential feature" of Coffey's method for making satisfactory mixed-active detergent compositions is the use of partially pre-hydrated sodium tripolyphosphate builder.

Unlike Coffey's method, appellant's process (claim 5) for making a mixed active detergent with good flow characteristics does not rely on partially pre-hydrated sodium tripolyphosphate builder. Rather, appellant solves this flow problem by utilizing the technique of simultaneously spray-drying through separate nozzle systems in one spray-drying tower one detergent slurry having an active detergent content that is primarily if not exclusively anionic and another detergent slurry having an active detergent content that is primarily if not exclusively nonionic. Although simultaneous spray-drying of multiple slurries did not originate with appellant, on this record he appears to have been the first to utilize this technique with slurries having different active detergent contents, one being primarily if not exclusively anionic in nature and the other being primarily if not exclusively nonionic in nature, in order to improve the flow characteristics of the final mixed-active product.

[3] In the past, simultaneous spray-drying of multiple slurries was limited to the production of multicolor detergents wherein the specific active detergent content of the slurries was beside the point.<sup>9</sup> We conclude that the problem of how to introduce more than one color into a detergent and the problem of how to improve the flow characteristics of a mixed-active detergent are quite remote. Mere knowledge that simultaneous spray-drying multiple slurries was a useful technique in the production of multi-colored detergents would not have suggested anything about the effect of simultaneous spray-drying slurries having different active detergent contents, one being primarily if not exclusively anionic in

<sup>9</sup> Although Cavataio implies that the colored slurry could be different from the matrix slurry composition-wise, nowhere does he teach or even hint at the particular difference here claimed, i.e., that the slurries have different active detergent contents, one being primarily if not exclusively anionic in nature and the other being primarily if not exclusively nonionic in nature. In point of fact, Cavataio's only illustration of this point is an example wherein one slurry contains none of the active detergent material.

nature and the other being primarily if not exclusively nonionic in nature, on the flow characteristics of the final mixed-active product. Consequently, one skilled in this art, working at the time appellant's invention was made on the problem of how to obtain good flow characteristics in mixed-active spray-dried detergents without resort to partially pre-hydrated sodium tripolyphosphate builder, would not have been motivated or guided by the prior art to arrive at the process appellant is claiming in claim 5, that is, a process for making a mixed-active detergent wherein the flow characteristic problem is solved by resort to the simultaneous spray-drying technique heretofore only used in the production of multi-colored detergents. For this reason, we hold that the process described in claim 5, considered as a whole as required by 35 USC 103, would not have been prima facie obvious to one skilled in the art at the time this invention was made. Cf. *In re Sponnoble*, 56 CCPA 823, 405 F.2d 578, 160 USPQ 237 (1969); *In re Kuehl*, 475 F.2d 658, 177 USPQ 250 (CCPA 1973).

Accordingly, the decision of the board is affirmed with regard to claims 2-4, 9 and 14, and reversed as to claim 5.

Modified.

Miller, Judge, with whom Markey, Chief Judge, joins, dissenting in part.

I cannot agree that the rejection of claim 5, which requires simultaneous spray-drying and mixing of two conventional detergent slurries, should be reversed. The majority opinion recognizes that the motivation for one of ordinary skill in the art to mix the dried detergents together after independent spray-drying follows logically from the prior art. *In re Susi* and *In re Crockett*, both cited in the majority opinion. Nevertheless, it concludes that mixing them during simultaneous spray-drying would have been beyond the level of ordinary skill in the detergent-making art, even though, as the majority opinion recognizes, simultaneous spray-drying of multiple slurries is a conventional process in that art.<sup>1</sup>

<sup>1</sup> The majority opinion says that appellant appears to have been the first to utilize simultaneous spray-drying with slurries having different active detergent contents, but, at oral argument, counsel for appellant stated that it made no difference whether the compositions were separately dried before mixing or simultaneously dried and mixed.

How or why such mixing would have been beyond the level of ordinary skill in the art is not explained except by the statement that there would have been no motivation therefor, because the prior art simultaneous spray-drying technique had only been used in the production of multicolored detergents. However, this position is untenable, because Cavataio et al. teach that two detergent slurries to be simultaneously spray-dried can be of different compositions as well as of different colors.<sup>2</sup> Thus, motivation to use any two conventional slurries (having different active detergent contents) in the Cavataio et al. process would have been provided one of ordinary skill in the art, and a prima facie case of obviousness is established.

The majority opinion's reversal of the rejection of claim 5 clearly relies upon its conclusion that appellant "solves this flow problem" (the "sticky and poor flow properties" of detergent compositions related by Coffey), accepting as fact that appellant's process produces detergents "with good flow characteristics." However, in affirming the rejection of all the other claims, the majority opinion does not accept appellant's "good flow characteristics" test data as sufficient to rebut a prima facie case of obviousness. Moreover, it does not necessarily follow that a product possessing non-obvious properties renders a process for making that product nonobvious. As Judge Rich explained in his concurring opinion in *In re Larsen*, 49 CCPA 711, 716-17, 292 F.2d 531, 534-36, 130 USPQ 209, 212-13 (1961):

[I]f it be the fact that the final compound AB possesses unique, unexpected, surprising, or highly useful properties, they *inhere in the product AB*, not in A alone, B alone, or in the process of reacting them. While such attributes in a product may make it, the product, patentable they do not make the process patentable because they are in no way a part of the process.

\* \* \*  
There is a certain amount of logic in holding a product to be unobvious

<sup>2</sup> Cavataio et al. state that "both the matrix and the contrasting colored liquid are in the form of slurries which contain the necessary components for a complete detergent composition." The majority opinion offers no reason for limiting this teaching of Cavataio et al. to the specific slurry compositions used in their several examples.

because of the discovery in it of unobvious properties \* \* \*. But I see neither logic nor sound interpretation of the patent law in transferring such properties from the product in which they inhere to a process of making the product in which they do not.

See *In re Hoeksema*, 51 CCPA 1474, 1478, 332 F.2d 374, 377, 141 USPQ 733, 735-36 (1964), pointing out:

In *In re Larsen* \* \* \* this court held a process to be obvious although it produced a product which, because of its unexpected properties, was unobvious.

See *In re Kuehl*, 475 F.2d 658, 665, 177 USPQ 250, 255-56 (1973), in which the unanimous opinion by Judge Roth points out that "each statutory class of claims must be considered independently on its own merits" and that "an applicant does not get such [process] claims just because the product is new and unobvious." Appellant's citation of *In re Sponnoble*, 56 CCPA 823, 405 F.2d 578, 160 USPQ 237 (1969), is not apt, because the appealed claim with a limitation directed to the solution of a problem.

Although the manufacture of detergents may involve chemical reactions in process steps, claim 5 involves merely the physical process of simultaneously spray-drying two known slurries, and there is no indication that a chemical reaction occurs in the spray-drying tower. Accordingly, the uncertainty and unpredictability often associated with the chemical arts is not present here.

With respect to appellant's claim limitation that the nozzles be located at a "substantially equal height level of the tower," Cavataio et al. disclose that the point of entry of the second liquid can be as close as 15% "below the level of the point of entry of the first liquid, the percentage based on the distance from the bottom of the spray tower to the point of entry of the first liquid." Moreover, the Tofflemire reference (U.S. Patent 3,357,476) expressly discloses the simultaneous spray drying of two different detergents (one colored, the other not colored) at the same height.

I would hold that the Patent and Trademark Office has established a *prima facie* case of obviousness of claim 5 and that this has not been rebutted by appellant's comparative test data, the same not being commensurate in scope with the claim, as clearly pointed out in the majority opinion.

## District Court, E.D. California

Carcione v. The Greengrocer, Inc. et al.

No. S-78-561

Decided Oct. 12, 1979

### TRADEMARKS

#### 1. Registration — In general (§67.731)

##### Registration — Distinctive mark (§67.745)

Generic mark may never be validly registered, under federal trademark law, although descriptive term that has acquired secondary meaning may be registered.

#### 2. Marks and names subject to ownership — Descriptive — How determined (§67.5073)

##### Registration — Effect (§67.747)

Test to determine whether or not term is generic is based upon what consumer understands meaning of term to be; term whose primary significance in minds of consuming public is that it refers to producer and not to general class of goods or services is not generic; this test is not always clear guide through subtle intricacies of language usage; court is aided somewhat by presumption of validity that attaches to any mark that is properly registered.

#### 3. Evidence — In general (§67.331)

##### Marks and names subject to ownership — Descriptive — How determined (§67.5073)

Dictionary definitions, while not determinative, are often persuasive evidence indicating language usage; since American trademark law, and thus American consumer, is being dealt with, neither British usage of mark at hand, which is generic in Britain, nor dictionary definition indicating such usage are determinative; testimony that customers refer to mark in generic sense is undercut, somewhat, by further admission that many of these customers were British.

#### 4. Evidence — In general (§67.331)

##### Marks and names subject to ownership — Descriptive — How determined (§67.5073)

Evidence of usage that is scattered and may simply reflect instances of idiosyncratic usage in this country is of some weight in determining whether or not term is generic, but is not conclusive.

called upon to construe, and competing manufacturers and dealers of exactly what they are bound to avoid. *Grant v. Raymond*, 6 Pet 218, 247. If the description be so vague and uncertain that no one can tell, except by independent experiments, how to construct the patented device, the patent is void."

[2] Failure of the specification to meet the requirements of 35 U.S.C. 112 in that it does not adequately teach how to carry out the invention in practice is, of course, fatal to the validity of *all* of the claims.

It is clear, too, that claim 1, directed to a lamp shade as an article of manufacture, does not particularly point out and distinctly claim "the subject matter which the applicant regards as his invention." 35 U.S.C. 112. The essence of plaintiff's invention appears in the following part of plaintiff's cross-examination.

"Q To get the things clear in my mind, as far as winding of the tape around the bottom of the frame is concerned, that is old, isn't it? It was done long before your so-called invention.

A Yes.

Q And the only difference between what we have now and what was done before is that you have sewing by machine instead of what was done formerly by hand?

A Yes."

Yet, claim 1 nowhere states that the stitches are machine stitches. Hence, it not only fails to point out plaintiff's invention, but it reads on the hand-sewn shades which admittedly preceded it.

[3] Despite the presumption of the patent's validity—strengthened by the fact that the Greenberg patent was considered by the Patent Office on the present application—we are persuaded of the merit of defendants' further contention that the aforesaid claims of the patent in suit are anticipated by prior art.

The prior art, as demonstrated by the Greenberg and Brockman patents, discloses machine stitching of lamp shade covers to the frames. The plaintiff frankly conceded that the spiral winding of tape around the rings and the hand stitching of the cover to such tape was an old practice, but contended that the difference—and the only difference—was the substitution of machine stitching for hand stitching.

[4] The mere substitution of machine stitching for hand stitching in an otherwise admittedly old lamp shade construction does not, *per se*, appear to be

anything more than an obvious thing to do; but, if it is, the Greenberg patent had already disclosed machine stitching of lamp shade covers to the tape on the ring in a position outwardly of the ring's edge, and had indicated substitution of a different machine head with a different needle arrangement to procure a different stitching. If more than mere mechanical skill was necessary to utilize these teachings so as to sew the cover only to the outer edge of each spirally wound tape, then the patentable invention here was in the "how-to-do-it" category and here the patent in suit is eloquently silent.

We conclude, therefore, that patent 2,727,983 and claims 1 and 8 thereof are invalid for failure to comply with the requirements of 35 U.S.C. § 112 and for want of any invention patentable under 35 U.S.C. § 101.

Settle order accordingly and submit within twenty (20) days.

47 CCPA 1020

Court of Customs and Patent Appeals

*In re CROCKETT AND HULME*

Appl. No. 6478 Decided June 8, 1960

## PATENTS

### 1. Patentability—Invention—Specific cases—Chemical (§ 51.5093)

Prior art teaches use of magnesium oxide and calcium carbide individually; assuming that the two together produce an effect somewhat greater than sum of their separate effects, idea of combining them would flow logically from teaching of prior art; therefore, claim to their joint use is not patentable.

### 2. Patentability—Evidence of—Commercial success—In general (§ 51.4551)

Affidavits indicating commercial success are not persuasive of patentability inasmuch as claimed process would flow logically from teaching of prior art.

### 3. Affidavits—Distinguishing from references (§ 12.7)

#### Operability (§ 48.)

Affidavits are inconclusive in showing that magnesium oxide, as used in process of prior patent, will not produce nodular structure in cast iron and fail to overcome presumption of operativeness which attaches to patent since, although specific examples are given in which

nodular structure was not obtained although magnesium oxide was used, it does not appear that thorough investigation was made as to effect of various amounts of that substance, nor does it appear that it was used in such an amount as to reduce sulphur content below 0.02%, which patent states is essential to cause formation of nodules.

**Particular patents—Cast Iron**

Crockett and Hulme, Cast Irons and the Manufacture Thereof, claim 95 of application allowed; claims 94 and 96 refused.

Appeal from Board of Appeals of the Patent Office.

Application for patent of John M. Crockett and Philip M. Hulme, Serial No. 305,315; Patent Office Division 3. From decision rejecting claims 94 to 96, applicants appeal. Affirmed as to claims 94 and 96; reversed as to claim 95; Martin, Judge, concurring in part and dissenting in part with opinion in which Kirkpatrick, Judge, joins.

CLARENCE M. FISHER, Washington, D. C. (H. HUME MATHEWS, Murray Hill, N. J., of counsel) for appellants.

CLARENCE W. MOORE and ARTHUR H. BEHRENS (RAYMOND E. MARTIN of counsel) for Commissioner of Patents.

Before WORLEY, Chief Judge, RICH, MARTIN, and SMITH, Associate Judges, and KIRKPATRICK, Judge.\*

RICH, Judge.

This appeal is from the decision of the Patent Office Board of Appeals affirming the rejection of claims 94, 95 and 96 of appellants' patent application No. 305,315 entitled "Cast Irons and the Manufacture thereof." The appealed claims are as follows:

94. A method for treating gray iron prior to casting thereof, comprising, establishing a bath of a gray cast iron composition containing iron more than 90%, carbon from 1.7% to 4.5%, silicon from 1.0% to 3.5%, and manganese from 0.1% to 1.0%, injecting into said bath a mixture comprising essentially a major proportion of finely-divided calcium carbide and a minor proportion of finely-divided magnesium oxide, said mixture being injected with a carrier gas stream

in an amount such that the total amount of carbide injected is in the range from 5 to 75 pounds of carbide per ton of molten metal, and casting the resulting treated molten metal promptly following said carbide-oxide treatment to provide an as-cast product having a retained magnesium content of less than .02% and which is substantially free of retained elemental calcium and which is characterized by the presence of uncombined carbon in nodular form.

95. A method for treating gray cast iron prior to casting thereof, comprising establishing a bath of a gray cast iron composition containing iron more than 90%, carbon from 1.7% to 4.5%, silicon from 1.0% to 3.5%, and manganese from 0.1% to 1.0%, injecting into said bath a mixture comprising essentially a major proportion of finely-divided calcium carbide and a minor proportion of finely-divided rare earth oxide, said mixture being injected with a carrier gas stream in an amount such that the total amount of carbide injected is in the range from 5 to 75 pounds of carbide per ton of molten metal, and casting the resulting treated molten metal promptly following said carbide-oxide treatment to provide an as-cast product which is substantially free of retained elemental rare earth and elemental calcium and which is characterized by the presence of uncombined carbon in nodular form.

96. A treating material for injection into molten gray cast iron to produce upgrade or nodular gray cast iron products and which comprises essentially a major proportion of finely-divided calcium carbide in admixture with a minor proportion of a finely-divided nodulizing agent selected from the group consisting of magnesium oxide and rare earth oxides.

The references relied on are:

Morrogh I 2,488,512 Nov. 15, 1949  
 Morrogh II 2,552,204 May 8, 1951  
 Morrogh III 2,747,990 May 29, 1956

Appellants' invention relates to the production of cast iron having its graphitic carbon wholly or partly in the form of nodules. The step in the claimed process with which we are here concerned consists of supplying to a bath of molten cast iron a stream of inert gas carrying a major proportion of finely-divided calcium carbide and a minor proportion either of magnesium oxide (claim 94) or an oxide of a rare earth metal (claim 95) in a finely-divided condition and promptly thereafter casting the treated molten metal.

\* United States Senior Judge for the Eastern District of Pennsylvania, designated to participate in place of Judge O'CONNELL, pursuant to provisions of Section 294(d), Title 28, United States Code.

The three reference patents are referred to by the board and in the briefs as Morrogh I, II, and III and will be so referred to here.

Morrogh I discloses a process for the production of a high silicon corrosion-resistant cast iron containing more than ten percent of silicon by weight, in which cerium is added to the molten iron "immediately before pouring." The result is said to be a cast iron free from coarse graphite flakes with improved mechanical properties and a freedom from porosity cavities, the graphite being present "in very finely-divided form or as a mixture of very finely-divided graphite and nodular graphite." The cerium may be added in pure metallic form, as an alloy with other metals or as "a reducible cerium compounds."

Morrogh II relates to the production of cast iron in which the free carbon is present as graphite predominantly in the form of nodules. This result is said to be obtained by adding to the molten iron, before casting, magnesium oxide (magnesia) which may be introduced in the form of briquettes which also contain lime and silicon.

Morrogh III relates to the production of cast iron in which the graphite is present wholly or predominantly in nodular form, and discloses a process in which finely-divided calcium carbide entrained in a stream of inert gas is injected into the molten iron before casting.

The claims were rejected on Morrogh III as a primary reference in view of the other Morrogh patents as secondary references. Claim 94 was considered unpatentable over Morrogh III in view of Morrogh II on the ground that it would be within the skill of the art, in view of the latter patent, to add a minor proportion of magnesium oxide to the calcium carbide of the former.

[1] We agree with the Patent Office tribunals that the combination of steps of claim 94 would have been obvious to a person of ordinary skill in the art. The patents clearly teach that both magnesium oxide and calcium carbide, individually, promote the formation of a nodular structure in cast iron, and it would be natural to suppose that, in combination, they would produce the same effect and would supplement each other. Even assuming, as appellant alleges to be the case, that the two together produce an effect somewhat greater than the sum of their separate effects, we feel that the idea of combining them would flow logically from the teaching of the prior art and therefore that a claim to their joint use is not patentable. *In re Heinrich*,

46 CCPA 933, 268 F.2d 753, 122 USPQ 388, and cases there cited. Accordingly

[2] the affidavits of record indicating that the process of claim 94 yields good results and has been commercially successful are not persuasive of the patentability of claim 94.

[3] Appellants contend that magnesium oxide, as used in the Morrogh II process, will not produce a nodular structure in cast iron, and they have submitted affidavits purporting to establish this. We have considered the affidavits, but agree with the examiner and the board that they are inconclusive and fail to overcome the presumption of operativeness which attaches to the patent. Certain specific examples are given in the affidavits in which a nodular structure was not obtained although magnesium oxide was used, but it does not appear that any thorough investigation was made as to the effect of various amounts of that substance, nor does it appear that it was used in such an amount as to reduce the sulphur content of the cast iron below 0.02%, which the patent states is essential to cause the graphite to form nodules. See *In re Michalek*, 34 CCPA 1124, 1127, 162 F.2d 229, 231, 74 USPQ 107, 109.

While claim 94 contains certain other limitations as to the composition of the original iron bath, the amount of calcium carbide used, and the magnesium and calcium content of the final product, we do not find that they point out anything unobvious. In fact, the original iron, as claimed, has the composition which is stated in appellants' application to be "that which is conventionally used to make gray cast iron." The range of calcium carbide set forth in the claim is a wide one—from 5 to 75 pounds per ton—and there is nothing to show that it is critical or involves anything more than judicious selection, and the same is true of the magnesium and calcium content limitations as to the final product.

Similarly the statement that the cast iron is poured "promptly" after the injection of the magnesium oxide and calcium carbide is not regarded as rendering the claim patentable, since such a procedure is considered obvious in view of the teaching in Morrogh I that the additive is put into the molten iron "immediately before pouring."

In our opinion, claim 94 calls for nothing more than an obvious combination of two old nodulizing materials, and the rejection of this claim will, therefore, be affirmed.

Claim 96 is so broad as to be fully met by a treating material comprising essentially calcium carbide and magne-

sium oxide. As above stated, we consider it to be obvious to use these two materials together in the production of nodular cast iron. We think it would also be obvious to combine them as a treating material prior to adding them to the molten iron. The combining of additives is an old expedient as shown, for example, in Morrogh II in which magnesium oxide is briquetted with lime and silicon before being added to the iron. The rejection of claim 96 will accordingly be affirmed.

Claim 95 was rejected on the ground that it would be obvious, in view of Morrogh I, to add a minor proportion of an oxide of cerium, a rare earth metal, to the calcium carbide used in the Morrogh III process. We are unable to concur in this rejection since, in our opinion, Morrogh I does not fairly suggest the use of cerium oxide as a nodulizing agent for conventional cast iron of the kind recited in claim 95.

In the first place, the Morrogh I disclosure is directed to high-silicon cast iron, containing more than 10% silicon and not over 2% carbon and the purpose for which the cerium is added is to overcome objectionable features resulting from the high silicon content, namely, the presence of the carbon in the form of coarse and very coarse flakes, porosity, cavities, and a very hard and brittle product. The patent does not clearly suggest that cerium or cerium compounds could be similarly useful in cast iron such as that of claim 95, containing only from 1.0% to 3.5% of silicon and up to 5% carbon. But even for high-silicon cast iron, Morrogh I does not teach that predominantly nodular product will result from the use of cerium. On the contrary, the patent specification states that the eutectic carbon is in the form of finely-divided graphite, and that it is only the carbon, if any, in excess of that amount which is in nodular form. The single example of Morrogh I, the total carbon content is only 1.19%, with 5% silicon, the patent repeatedly emphasizing that with high silicon content, carbon must be kept low. Though Morrogh I does not mention cerium oxide, we deem it to be included in his broad reference to a "reducible cerium compound."

The teaching of Morrogh I is that cerium or its alloys or compounds, if added to high-silicon cast iron, will result in a product in which the carbon is primarily in the form of finely-divided graphite, with the possibility of the nodular graphite being present. It would not, we think, reasonably suggest to one skilled in the art that

cerium or its oxide would produce a predominantly nodular product in conventional cast iron of the kind claimed here. Accordingly, there is nothing herein to suggest that anything would be gained by employing cerium oxide in the process of Morrogh III, which is directed to the production of a cast iron in which the graphite is wholly or predominantly in nodular form. These two Morrogh patents relate to the use of different materials to produce end products having different properties and, in our opinion, they cannot properly be combined to reject claim 95.

The decision of the Board of Appeals is affirmed as to claims 94 and 96 and is reversed as to claim 95.

MARTIN, Judge, concurring in part and dissenting in part.

In my opinion the rejection of claim 95 should be affirmed.

Appellants' specification with reference to some of the nodulizing agents therein disclosed states:

The nodulization-impelling agents, if in reducible compound or oxide form, are preferably injected simultaneously with the calcium carbide, in finely divided form, and they may be in admixture with the finely divided calcium carbide. The nodulization-impelling agents, if in elemental or metallic form, are preferably added to the molten metal either simultaneously with the calcium carbide injection or just subsequent thereto, and they may be injected in finely divided form and may be in admixture with the finely divided calcium carbide. [Emphasis mine.]

As respects the cerium, a rare earth metal, of Morrogh I and the form in which it may be introduced into the Morrogh I cast iron, the patent, in strikingly parallel language, relates:

The cerium may be added in any convenient form, either as pure metallic cerium, mischmetall, ferrocerium, cerium carbide or other alloy of cerium. \* \* \* The cerium may be applied in the form of a reducible cerium compound. [Emphasis mine.]

Thus, both the reference and the application equate cerium and reducible cerium compounds, of which cerium oxide is one, for use in cast iron compositions, one being a "conventional" cast iron, the other being a high silicon cast iron. The application states that the oxides are used because it "enables the rare earths to be used in their inexpensive,

readily available, oxide form," and theorizes that:

The rare earth oxides as used with the present invention are believed to be reduced by the injection calcium carbide at the normal founding temperatures (2400°F. to 2900°F.) of the metal baths to liberate cerium, lanthanum, and other rare earth elements. In contrast, magnesium oxide is a refractory oxide and is therefore not as readily reduced by the injected calcium carbide at the temperatures of the bath, and this may be one of the reasons why it is not as effective in the combination treatment as the rare earth oxides for purposes of nodulization. [Emphasis mine.]

While these may be some of the reasons for the interchangeability of the metallic and oxide forms, reasons which are not stated in the patent, the indication of equivalency is set out. Consequently, I feel that Morrogh I suggests the use of either cerium or cerium oxide to perform the function for which it is used in his cast iron.

That patent teaches that cerium improves the properties of high silicon cast iron, the high silicon content being an important element in producing corrosion-resistant cast iron. One of the objects of the Morrogh I invention "is to provide a high-silicon cast iron in which the graphite is present in finely divided form or as a mixture of very finely divided graphite and nodular graphite." To that end when cerium is added to the cast iron composition "immediately before pouring," the eutectic carbon separates "on cooling in the form of a very finely-divided undercooled graphite and any excess of carbon over the eutectic amount in the form of nodular graphite." A microscopic examination of sections of a casting made according to the Morrogh I invention showed the graphite to be present "partly in the form of nodules or spherulites."

Admittedly the patent does not state that all or substantially all of the graphite is nodulized. However, one interested in preparing nodulized cast irons could hardly fail to note that the patent does teach that nodular graphite in fact exists in the cerium containing cast iron of the patent.

The majority states that "Morrogh I does not suggest the use of cerium oxide as a nodulizing agent for conventional cast iron of the kind described in claim 95." I do not understand this to mean that the majority feels the "high silicon" cast iron of the patent and the "conventional" cast iron of the application to

be from non-analogous arts. While the patent disclosure specifically relates to high silicon cast iron, that does not mean that the suggestions which flow from such a disclosure are limited to that type of iron.

I believe that one dealing with the problem of nodulizing graphite in cast irons when confronted with the Morrogh I patent would think that the cerium of that patent might also cause nodulization of graphite in other cast irons, including the "conventional" cast iron of claim 95. Thus, the use of cerium, or its equivalent the oxide, in a cast iron of the type claimed herein would be obvious to one of ordinary skill in the art. I also feel, for the reasons stated by the majority with respect to the obviousness of combining calcium carbide and magnesium oxide as nodulization materials in cast iron compositions, that it would be obvious in view of the references to combine the rare earth oxides and calcium carbide as a nodulizing composition for "conventional" cast irons. The other limitations of claim 95 are parallel to those of claim 94. With respect to them, the majority said, "we do not find that they point out anything unobvious." That statement is equally applicable to claim 95.

I would affirm the rejection of all of claims 94 to 96.

KIRKPATRICK, Judge, joins in this opinion.

47 CCPA 1030

Court of Customs and Patent Appeals

In re STEPHENS

Appl. No. 6531 Decided June 8, 1960

#### PATENTS

##### 1. Court of Customs and Patent Appeals —Issues determined—Ex parte patent cases (§ 28.203)

Examiner's rejection, not having been reversed by Board, is before court.

##### Particular patents—Tube

Stephens, Composite Fibrous Tube. claims 18 to 20 of application refused.

Appeal from Board of Appeals of the Patent Office.

Application for patent of Joseph F. Stephens, Serial No. 203,441, filed Dec

aminer, and the need under the facts of this case for a careful interpretation of those proceedings by one of ordinary skill in the art, explanatory testimony could aid the trial court (if it had doubt) in ascertaining the scope of the [claim].

Under the circumstances of this case, summary judgment should not have been granted.

### 3. "Uniform Outer Diameter"

MedComp continues to adhere to its interpretation of the phrase "uniform outer diameter" in claim 7 as an alternative basis for affirming the judgment below. MedComp contends that because this limitation was added during prosecution, Howes is estopped from claiming a catheter with a tapered distal tip, wherefore its catheter does not infringe. The district court rejected this argument as a basis for granting summary judgment, holding instead that it was reasonable to include tapered catheters within the scope of claim 7.

If one thing is clear from the prosecution history of the patent, it is that Howes added the limitation of a uniform outer diameter at the distal end of the catheter tube only to distinguish the catheter in *Bielinksi*, U.S. Patent No. 3,437,088, which had protuberances along its length. Some additional gloss was placed on this language by Howes' patent attorney in distinguishing the Cournand catheter during reissue, but Cournand was distinguished on a number of grounds. Significantly, the non-uniformity in the Cournand catheter body is not at its tip — it begins halfway along the length of the catheter body. At most, Howes' argument to the examiner can be taken, as surrendering from claim coverage a catheter with size changes along its insertion length, not at its tip.

### C. Other Errors

It is a truism that this court reviews judgments, not opinions, *see, e.g.*, *Chore-Time Equipment, Inc. v. Cumberland Corp.*, 713 F.2d 774, 781, 218 USPQ 673, 677 (Fed. Cir. 1983), but the district court's July 22, 1985, summary judgment order contains several misstatements of law which should not be left without comment.

The district court in several places appears to confuse claim allowance with infringement of third party patents, stating that "Howes was compelled to amend his patent application to avoid infringing prior art patents" and that the Howes patent was allowed because "small but significant differences

are enough to prevent infringement." In discussing the doctrine of equivalents, the court seems equally confused in its observation that although the differences between MedComp's catheter and Howes catheter were not great, "small changes have been enough to distinguish new catheters from prior art."

It is impossible to deduce whether these obvious misstatements contributed to the erroneous judgment below. Cf. *Lindemann Maschinenfabrik GMBH v. American Hoist and Derrick Co.*, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984) ("language in an opinion . . . may indicate that harmful errors of law produced an erroneous conclusion"). They do, however betray a lack of familiarity with certain fundamentals of patent law which should be remedied on remand.

### CONCLUSION

[1] We hold, therefore, that the district court erred as a matter of law in construing claim 7 as limited to Fig. 3 of the Howes patent based on its interpretation of the words "joined" and "freely" as contained therein. In doing so, the district court also failed to recognize genuine issues of material fact surrounding the reissue of the patent which make summary judgment inappropriate in this case. The judgment of non-infringement of claim 7 by MedComp and AHS is *vacated* and the case is *remanded* for further consideration consistent with this opinion.

### VACATED AND REMANDED

### Court of Appeals, Federal Circuit

In re Geiger\*

No. 86-1103

Decided April 1, 1987

### PATENTS

#### 1. Patentability/validity — Obviousness — Evidence of (§115.0903)

Obviousness cannot be established by combining teachings of prior art to produce

\* This opinion issued as an unpublished opinion on December 11, 1986. On request of counsel for appellant, it is now being reissued as a published opinion.

aimed invention, absent some teaching, suggestion, or incentive supporting combination, and thus, although it might have been obvious to one skilled in art to try various combinations of teachings of three prior art references to achieve claimed method, such evidence does not establish *prima facie* case of obviousness.

#### Particular Patents — Corrosion inhibitor

Geiger, application No. 373,903, for method of inhibiting scale formation on and corrosion of metallic parts in cooling water systems, Claims 43-63, and 65-67, not obvious.

Appeal from United States Patent and Trademark Office, Board of Patent Appeals and Interferences.

Application for patent of Gary E. Geiger, application, Serial No. 373,903, from affirmation of rejection of claims, applicant appeals. Reversed; Newman, Circuit Judge, concurring with opinion.

Bruce E. Peacock, Trevose, Pa., for appellant.

Robert D. Edmonds, associate solicitor (Joseph F. Nakamura, solicitor, and Fred E. McKelvey, deputy solicitor, with him on the brief), for appellee.

Before Skelton, Senior Circuit Judge, and Newman and Archer, Circuit Judges.

Archer, Circuit Judge.

This is an appeal from a decision of the United States Patent and Trademark Office (PTO) Board of Patent Appeals and Interferences (board), Appeal No. 606-09, affirming the examiner's rejection of all remaining claims, 43-63 and 65-67, in appellant's patent application, Serial Number 373,903 ('903), under 35 U.S.C. §103. We reverse.

#### OPINION

##### *Background*

The '903 application, filed on May 3, 1982, is directed to a method of inhibiting

scale formation on and corrosion of metallic parts in cooling water systems by use of compositions containing (1) a sulfonated styrene/maleic anhydride (SSMA) copolymer, (2) a water soluble zinc compound, and (3) an organo-phosphorus acid compound or water soluble salt thereof.

In its decision dated February 7, 1986, the board affirmed the examiner's rejections under 35 U.S.C. § 103, finding that the claimed subject matter would have been obvious in view of various combinations of references, but with reliance primarily upon U.S. Patent No. 4,209,398 issued to Li, et al. (Li), U.S. Patent No. 4,374,733 issued to Snyder, et al. (Snyder '733) and U.S. Patent No. 4,255,259 issued to Hwa, et al. (Hwa).<sup>1</sup>

The Li patent discloses use in cooling water systems of scale and corrosion prevention compositions comprised of a polymeric component in combination with one or more compounds selected from the group consisting of inorganic phosphoric acids and water soluble salts thereof, phosphonic acids and water soluble salts thereof, organic phosphoric acid esters and water soluble salts thereof, and polyvalent metal salts. Although the Li polymeric component may contain maleic acid and styrene monomers, there is no disclosure of the specific copolymer, SSMA, required in applicant's claims.

The Snyder '733 patent discloses a method for treating cooling water systems prone to scale formation by the addition of a composition comprised of an acrylic acid/lower alkyl/hydroxy acrylate copolymer and another polymeric component, which may be SSMA or a styrene/maleic anhydride (SMA) copolymer. The Snyder '733 patent notes that boiler and cooling water systems share a common problem in regard to scale deposit formation and that use of SMA to prevent scale in boiler water systems is known.

The Hwa patent is directed to a method for treating boiler water systems that are prone to scale formation by addition of a composition comprised of SSMA and an organo-phosphorus acid compound.

The remaining references, cited with respect to certain dependent claims, contain no suggestion to use SSMA, the specific copolymer recited in the appealed claims.

Based upon the prior art and the fact that each of the three components of the composi-

<sup>1</sup> Hwa was cited only with respect to dependent claims 47 and 49.

tion used in the claimed method is conventionally employed in the art for treating cooling water systems, the board held that it would have been *prima facie* obvious, within the meaning of 35 U.S.C. § 103, to employ these components in combination for their known functions and to optimize the amount of each additive. The board further held that data appearing in appellant's specification, and supplemented by a declaration submitted pursuant to 37 C.F.R. § 1.132, provided insufficient evidence of nonobviousness to rebut the *prima facie* case.

#### Issues

1. Whether the board erred in finding that a *prima facie* case of obviousness was established.
2. Assuming that a *prima facie* case of obviousness was established, whether the board erred in finding that appellant's objective evidence with regard to unexpected results was insufficient to rebut that *prima facie* case.

#### Analysis

Obviousness is a question of law based upon the factual inquiries mandated in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966); *Bausch & Lomb, Inc. v. Barnes-Hind/ Hydrocurve, Inc.* 796 F.2d 443, 447, 230 USPQ 416, 419 (Fed. Cir. 1986). For a conclusion of obviousness, the standard of review is correctness or error as a matter of law. *In re Caveney*, 761 F.2d 671, 674, 226 USPQ 1, 3 (Fed. Cir. 1985); *In re DeBlauwe*, 736 F.2d 699, 703, 222 USPQ 191, 195 (Fed. Cir. 1984).

[1] Appellant contends that the PTO failed to establish a *prima facie* case of obviousness and, consequently, that the board's affirmance of the examiner's rejections was erroneous. Appellant argues that the PTO's position represented hindsight reconstruction or, at best, established that it would have been "obvious to try" various combinations of known scale and corrosion prevention agents, including the combination recited in the appealed claims.

We agree with appellant that the PTO has failed to establish a *prima facie* case of obviousness. Obviousness cannot be established by combining the teachings of the

prior art to produce the claimed invention, absent some teaching suggestion or incentive supporting the combination. *ACS Hospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). We are convinced that the latter are not present here.

II does not suggest use of SSMA as its claimed polymeric component and does not require the presence of an organophosphorus acid compound or of a zinc compound. II notes that it is difficult to maintain a predetermined concentration of polyvalent metal ions, such as the zinc (II) ion, in alkaline cooling water, but states that its claimed polymeric component prevents the "polyvalent metals from becoming insoluble compounds and precipitating. . ." Although Snyder '733 discloses use of SSMA, it is for the purpose of showing that it, or one of three other specifically recited copolymers, may be used in combination with yet another polymeric component, an acrylic acid/lower alkyl/hydroxy acrylate copolymer, to prevent scale formation. With respect to claims 47 and 49, Hwa does disclose the specifically-recited organo-phosphorus acid compound. It provides, however, no suggestion to add a zinc compound to its disclosed combination of SSMA and organo-phosphorus acid compounds, or to use SSMA in combination with an organo-phosphorus acid compound in the treatment of a cooling water system, where the characteristics may significantly differ from those in Hwa's boiler water system. Hwa also provides no suggestion that SSMA could prevent precipitation of the zinc (II) ion in alkaline cooling water in the manner ascribed to the polymeric component of II.

At best, in view of these disclosures, one skilled in the art might find it obvious to try various combinations of these known scale and corrosion prevention agents. However, this is not the standard of 35 U.S.C. § 103. *In re Goodwin*, 576 F.2d 375, 377, 198 USPQ 1, 3 (CCPA 1978); *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977); *In re Tomlinson*, 363 F.2d 928, 150 USPQ 623 (CCPA 1966).

Because we reverse on the basis of failure to establish a *prima facie* case of obviousness, we need not reach the issue of the sufficiency of the showing of unexpected results.

REVERSED

## • Newman, Circuit Judge, concurring.

I agree in the court's result, but respectfully do not share the view that the PTO did not present a *prima facie* case that the claimed invention would have been obvious in terms of 35 U.S.C. § 103. I write separately because the determination of whether a *prima facie* case of obviousness has been made is a critical decision that controls the evidentiary procedures and burdens before the PTO.

The claims are directed to a three-component system to control scale and corrosion in cooling water systems, the components being 1) zinc ions, (2) a copolymer of sulfonated styrene and maleic anhydride (SSMA), and 3) an organophosphorus acid or salt. A three-part system is described in the II reference for the same purpose, but differs from applicant's system in that the copolymer component (2) is different. There is no teaching of SSMA in the II reference. However, the Snyder '733 reference teaches SSMA in combination with other polymers to control scale in cooling water systems. The use of SSMA in cooperation with phosphonate is known to reduce scale and sludge in boilers (Hwa). Hwa does not use zinc ions and it is known that zinc ions produce undesirable results in boilers, but the II reference states that it was known to use zinc ions alone or in combination with organophosphorus acids or salts to inhibit corrosion in cooling water.

Thus each of Geiger's three components has been described, separately or in partial combination, for use in cooling water systems. In my view, it would have been *prima facie* obvious to replace the polymer component of II with the known scale inhibitor SSMA, or to add an organophosphorus compound and zinc ions, both known corrosion inhibitors, to SSMA to achieve both scale and corrosion resistance in cooling water systems. *In re Kerkhoven*, 626 F.2d 846, 850, 105 USPQ 1069, 1072 (CCPA 1980); *Minnesota Mining & Manufacturing Co. v. Anul Co.*, 213 USPQ 1024, 1033-34 (E.D. Wis. 1981). The Board so held.

The applicant, in rebuttal of the PTO's *prima facie* case, argued that his three [component] systems exhibits superior properties, and that the superiority was not obvious in view of the cited references. In support of his argument the applicant relied on experimental data in the specification.

The specification contains data on the corrosion/scale control capability of various

combinations of components, including data comparing the applicant's three-part system containing SSMA with other three-part systems containing other preferred scale-preventing polymers of the prior art. These data showed significant superiority of applicant's system; this was not disputed. The Board nevertheless held that the *prima facie* case was not rebutted because the applicant did not include data showing the properties of SSMA alone, stating that "the superior performance of such compositions may be due to the superiority of SSMA vis-a-vis the other scale-Preventing copolymers."

I agree with the Board to the extent that it would have been of scientific interest to include such data. However, as a matter of law I believe that the applicant's showing was reasonable and sufficient. He complied with the requirement that the comparative showing "must be sufficient to permit a conclusion respecting the relative effectiveness of applicant's claimed compounds and the compounds of the closest prior art," *In re Payne*, 606 F.2d 303, 316, 203 USPQ 245, 256 (CCPA 1979), and must "provide an adequate basis to support a legal conclusion of unobviousness. *In re Johnson*, 747 F.2d 1456, 1461, 223 USPQ 1260, 1264 (Fed. Cir. 1984). The applicant demonstrated the exceptional corrosion inhibition achieved with his three-part system in comparison with systems containing the known corrosion inhibitors zinc ion and organophosphorus compounds. He also compared his combination with systems containing other known polymeric scale inhibitors such as those taught by II, and demonstrated that those systems did not provide the improvement in corrosion and scale control achieved with the SSMA combination. He also demonstrated that neither polymaleic anhydride nor sulfonated polystyrene had the same effect on corrosion resistance as did the SSMA copolymer.

Applicant compared his system with the most relevant prior art. It is not required that the claimed invention be compared with subject matter that does not exist in the prior art. The applicant is not required to create prior art, nor to prove that his invention would have been obvious if the prior art were different than it actually was.

The Board also upheld the examiner's additional rejection that it would have been obvious to add zinc ion to the two-component SSMA/phosphonate system of Hwa. The Hwa system is for the reduction of scale and sludge at the high temperatures of steam

boilers, and it was uncontested that zinc ion is not usable at high temperatures. Applicant provided data showing that the Hwa system is relatively ineffective in a cooling system. The Board did not contradict this position on its scientific merits.

The applicant compared SSMA/phosphonate (Hwa) alone, SSMA/zinc, and phosphonate/zinc, with his three-component system, and achieved results that the Board held showed "superior performance." These results are sufficient in themselves to rebut a *prima facie* case of obviousness. *See In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984).

Turning to the rejection on the breadth of the claim language, the limitations in the claims appear to be reasonably commensurate with the disclosure. Although I do not agree with the applicant that it is incumbent on the Commissioner to offer "technical evidence", applicant's specific examples are illustrative of the limitations described in the specification, and are not in themselves further limitations. *In re Johnson*, 558 F.2d 1008, 1017, 194 USPQ 187, 195 (CCPA 1977); *In re Goffe*, 542 F.2d 564, 567, 191 USPQ 429, 431 (CCPA 1976).

in view of plaintiff's frivolous appeal of federal district court's decision that parties' settlement agreement was enforceable.

Appeal from District Court for the Middle District of Florida, Castagna, J.

Action by S and J. Manufacturing Co. Inc., Saul R. Spector, and Steco Sales Inc., et al., for patent infringement. From decision denying plaintiff's motion to set aside and granting defendant's motion to enforce settlement agreement, plaintiff appeals. Affirmed.

Leonard Michael Quittner, Reading, Pa., for appellants.

Edward Kondracki, of Kerkham, Stowell, Kondracki & Clarke, Falls Church, Va., and George Rahdert, of Rahdert, Acosta & Dickson, St. Petersburg, Fla. (William L. Feeney, of Kerkham, Stowell, Kondracki & Clarke, Falls Church, Va., Joseph Spicola, of Rahdert, Acosta & Dickson, St. Petersburg, Fla., and R. Elliott Dunn, Tampa, Fla., with them on the brief), for appellees.

Before Nies, Bissell, and Archer, Circuit Judges.

Bissell, Circuit Judge.

S and T Manufacturing Co., Inc., Saul R. Spector, and Steco Sales, Inc. (collectively, S & T) seek to overturn the final order of the United States District Court for the Middle District of Florida, Civil Action 84-1431-Civ-T-15. The order denied S & T's motion to set the case on the district court's trial docket and granted the motion filed by the County of Hillsborough, Florida, Har-Dee Manufacturing Co., Plant City Steel Co., Harsco Corp., and Hunt Truck Sales and Services, Inc. (collectively, Hillsborough) to enforce the settlement agreement. The district court found that the settlement agreement between S & T and Hillsborough was enforceable and that S & T had failed to show a basis for voiding the agreement. We affirm.

## BACKGROUND

This case arises out of a patent infringement dispute concerning U.S. Patent No. 3,815,764. The parties with their counsel

### Court of Appeals, Federal Circuit

S and T Manufacturing Co. v. County of Hillsborough, Florida

No. 86-1484

Decided March 31, 1987

### JUDICIAL PRACTICE AND PROCEDURE

#### 1. Procedure — Settlement agreements; consent decrees; waivers; releases (§410.43)

Federal district court did not err in finding that enforceable settlement agreement had been reached between patent infringement parties, despite plaintiff's argument that agreement was "agreement to agree" because no adequate drawing of noninfringing structure was prepared, since drawing at issue was initialed and referenced as showing acceptable noninfringing structure.

### REMEDIES

#### 2. Monetary remedies — Damages — In general (§510.0501)

Defendant in patent infringement suit is entitled to damages under Fed.R.App.P. 38.

*Ex parte Bolar Pharmaceutical Co.*, 747 F.2d 844, 855 [224 USPO 349] (3d Cir. 1984), *cert. den.*, 471 U.S. 1137 (1985).

In its motion for the preliminary injunction plaintiff alleges:

[1] TJM first became aware that Xerox was selling goods identified by the phrase ~~DOCUTECH~~ in October of 1990. Affidavit of Malcolm C. Moran ¶27.

[2] It was not until approximately one year later that TJM learned that Xerox's ~~DOCUTECH~~ product was in fact a business form management system intended to displace or destroy the traditional business form printing and management practices performed by TJM and its licensee under the trademark DOCUTEC. Affidavit of Malcolm C. Moran ¶28.

In response to Xerox's discovery requests TJM produced a file containing legal work performed in October of 1990 by the Stone Bigham law firm on its behalf.<sup>16</sup> This file, contains a detailed analysis of the issues raised in this lawsuit, handwritten notes assessing TJM's claim, a plot of alternative strategies of pursuit, and information as to the October 1990 services provided by the New York law firm hired as co-counsel. This establishes that TJM was deeply involved in an assessment of TJM's rights vis-a-vis the trademark DOCUTEC as early as October 1990. Such is in direct contradiction to and unequivocally refutes the factual statements articulated in paragraph 22 of plaintiff's motion for a preliminary injunction (quoted hereinabove) and Moran's affidavit in connection therewith.<sup>17</sup> Despite the artful phrasology of plaintiff's pleadings aforesaid, the Court is convinced that Moran was on notice of the alleged trademark infringement as of October 1990.

[1] In summary, the Court finds that TJM waited sixteen months to move for a preliminary injunction claiming irreparable injury and attempted to delude the Court in its pleading and affidavit of relevant periods of time as to knowledge which would affect the granting or denial of such relief.<sup>18</sup>

Defendant's Ex. No. 48.

Also, in Moran's deposition the following exchange took place:

[9] You did not at any time in 1990 send this matter to any lawyer for an opinion as to whether or not any particular right of yours was in jeopardy, did you?

[A] I don't believe I did.

Moran Deposition at 67-68.

Nothing herein should be construed to determine whether TJM can assert any rights under the Lanham Act or the Louisiana Tradename and Trademark Act, other than the right to a preliminary injunction.

Accordingly, the following order denying plaintiff's Motion for Preliminary injunction was orally dictated into the record on May 13th, 1992: "I am granting judgment, as a matter of law, dismissing the complaint as to the preliminary injunction only, and the case will proceed as to all other matters, with written reasons to follow."

U.S. Patent and Trademark Office  
Board of Patent Appeals and Interferences

Ex parte Quadranti

No. 91-1912

Decided May 22, 1992  
Released October 8, 1992

PATENTS

1. Patentability/Validity — Obviousness — Combining references (§115.0905)

Use of materials in combination, each of which is known to function for intended purpose, is generally held to be *prima facie* obvious, and in instant case, use of combination of herbicides is so notoriously well known as to be capable of being taken by official notice; generalizations such as Colby formula are not particularly useful in determining whether synergism has been demonstrated, since formula inherently results in expectation of less than additive effect for combination of herbicides, since there is no evidence that such approach is considered valid by significant number of ordinarily skilled workers in relevant area of technology, and since it could be reasonably argued that in most cases, additive or better than additive results could be expected for combination of herbicides.

2. Patentability/Validity — Obviousness — Combining references (§115.0905)

There is no single, appropriate test for determining whether synergism has been demonstrated for chemical combination; rather, facts shown in each case must be analyzed to determine whether chosen method has clearly and convincingly demonstrated existence of synergism or unobvious result.

3. Patentability/Validity — Obviousness — Combining references (§115.0905)

Applicant has not overcome showing of *prima facie* obviousness for claimed combination of herbicides, since there is no evidence that differences in values shown in

data presented in specification represent true, practical advantage, since there is no evidence that such differences are unexpected, and since it cannot be assumed that differences in values are statistically significant in any event; although patent application specifications are not generally held to same high standard as scholarly scientific publications, data in present case are relied on as evidence of non-obviousness, and statistical analysis would enhance probative value of that evidence.

Appeal from final rejection of claims in patent application (Glennon H. Hollrah, primary examiner; J. Pak, examiner).

Patent application of Marco Quadranti and Willy Maurer, serial no. 272,849, filed Nov. 18, 1988 (synergistic composition and method for the selective control of weeds). From examiner's final rejection of all claims remaining in application, applicants appeal. Affirmed.

Kevin T. Mansfield and Karl F. Jorda, Ardsley, N.Y., for appellants.

Before Goldstein, Seidleck, and W. Smith, examiners-in-chief.

Goldstein, examiner-in-chief.

This appeal is from the examiner's final rejection of claims 3, 14, 15, 21 and 22, which are all of the claims remaining in the application. A copy of illustrative claim 22 is appended to this opinion.

References relied on by the examiner on appeal are:

Meyer et al. (Meyer) 4,478,635 Oct. 23, 1984

Worthing et al. (Worthing) (Editor), *The Pesticide Manual*, 8th Ed., The British Crop Protection Council, pp. 36-37, 198-199, 778-779, 568-569, 5-6, 479-482, 100-102, 94, 189-190, 251-252, 731, 63-64, 220-222, 522-523, 267-268 (no date provided).

All of the appealed claims have been finally rejected under 35 U.S.C. 103 as being unpatentable over Meyer in view of *The Pesticide Manual*. We shall affirm this rejection.

[1] It does not appear that appellants have controverted the issue of *prima facie* obviousness. If they did, we would of necessity agree with the examiner's position on this issue. It is generally true that the use of materials in combination each of which is known to function for the intended purpose is

*prima facie* obvious. *In re Kerkhoven*, 626 F.2d 846, 205 USPQ 1069 (CCPA 1980); *In re Crockett*, 279 F.2d 274, 126 USPQ 186 (CCPA 1960). With regard to the subject matter of the present claims, the use of combinations of herbicides is so notoriously well known as to be capable of being taken by official notice.

The salient issue on this appeal is whether or not appellants have established unobvious results adequate to amount to evidence sufficient to outweigh the evidence of obviousness of record. We agree with the examiner's general conclusion that they have not. However, since we do not agree with the examiner's reasoning in every particular and since we feel compelled to make some comments concerning the scientific validity of appellants' analysis of synergistic results, we shall add the following comments.

On the issue of whether or not synergism has been demonstrated, generalizations such as the Colby formula are not particularly useful. The Colby equation inherently reflects an expectation of a less than additive result for any combination of herbicides. There is no evidence of record that this approach is considered to be valid by a significant number of ordinarily skilled workers or authorities in this area of technology. It could reasonably be argued that at least additive results should be expected, and an argument can even be made out for the proposition that in most cases better than additive results could be expected. The examiner has indicated certain clear anomalies that the Colby equation gives rise to. We would, however, mention several additional reasons for expecting better than additive results with the use of two or more different herbicides.

If two or more herbicides functioned by somewhat different biological mechanisms, their combined use could clearly be expected to be more efficient than the use of merely a larger amount of any one of the individual herbicides since multiple biological pathways would be affected at the same time. It is also known that, in any population of plants as with any organisms, some will be more resistant to a particular biocide than others. The statistical probability of a large resistance to all of the components of any particular combination of herbicides, however, is not great.

[2] The point on which we differ from the examiner's position is his insistence that there is only one appropriate two pronged test to establish synergism. We do not find this generalization to be any more useful than the Colby formula test. There are un-

icie obvious. *In re Kerkhoven*, 626 F.2d 205, 106 USPQ2d 1019 (CCPA 1980); *In re Ladd*, 279 F.2d 274, 126 USPQ 186 (1960). With regard to the subject of the present claims, the use of mixtures of herbicides is so notoriously well known as to be capable of being taken at notice. *See, e.g.* *USPQ2d 1019*. A relevant issue on this appeal is whether appellants have established unobviousness adequate to amount to evidence sufficient to outweigh the evidence of obviousness relied on. We agree with the examiner's conclusion that they have not. However, we do not agree with the examiner's reasoning in every particular and since compelled to make some comments on the scientific validity of appellants' analysis of synergistic results, we shall follow. *See, e.g.* *USPQ2d 1019*. The issue of whether or not synergism is demonstrated, generalizations such as the Colby formula are not particularly meaningful. The Colby equation inherently requires an expectation of a less than additive effect for any combination of herbicides. There is no evidence of record that this claim is considered to be valid by a significant number of ordinarily skilled workers in this area of technology. It reasonably can be argued that at least some results should be expected, and an even better argument can be made out for the position that in most cases better than additive results could be expected. The examiner has indicated certain clear anomalies in the Colby equation gives rise to. We, however, mention several additional reasons for expecting better than additive results with the use of two or more different herbicides. *See, e.g.* *USPQ2d 1019*. Two or more herbicides functioned by what different biological mechanisms, combined use could clearly be expected to be more efficient than the use of merely a single amount of any one of the individual herbicides since multiple biological pathways would be affected at the same time. It is known that, in any population of organisms, as with any organisms, some will be resistant to a particular biocide than others. The statistical probability of a large number of plants having higher than usual resistance to all of the components of any particular combination of herbicides, however, is not great. *See, e.g.* *USPQ2d 1019*.

The point on which we differ from the other's position is his insistence that there is only one appropriate two pronged approach to establish synergism. We do not find the generalization to be any more useful than the Colby formula test. There are un-

doubtedly many appropriate methods of demonstrating synergism. In each case, however, the facts shown must be analyzed to determine whether the method chosen in that case has in fact clearly and convincingly demonstrated the existence of synergism or more generally speaking, an unobvious result. *In re Kollman*, 595 F.2d 48, 201 USPQ 193 (CCPA 1979).

21 It is not clear whether or not appellants  
22 agree with the examiner's statement that the  
23 only relevant data is in the table at page 22 of  
24 the specification. We do agree with that  
25 position. The examiner required appellants

to elect a single disclosed species for prosecution on the merits, and examination of the claims has been limited to the elected species, *l* a lachlor. Thus, it is appropriate for us to limit our consideration to the asserted evidence of unobvious results relating only to the elected species. See *Ex parte Ohsaka*, 2 USPQ2d 1461 (BPAI 1987).

The data at page 22 of the specification illustrate that the addition of various ineffective amounts of Compound IIIB to a slightly effective amount of Compound I produced mixtures having somewhat greater effectiveness than Compound I alone. The absolute effectiveness of all of the mixtures tested, with a single exception, was not very great. For the following reasons, we find that this evidence is inadequate to outweigh the clear evidence of record of obviousness of the claimed subject matter, i.e., it does not clearly and convincingly rebut the *prima facie* case of obviousness which the examiner has made out.

[3] Assuming arguendo that the differences in values presented are statistically significant, there is no evidence that they represent a true, practical advantage. *In re Freeman*, 474 F.2d 1318, 177 USPQ 139 (CCPA 1973); *In re Klosak*, 455 F.2d 1077, 173 USPQ 14 (CCPA 1972); *In re D'Aniello*, 439 F.2d 1244, 169 USPQ 303 (CCPA 1971). Also, prescinding from the Colby formula test, which, as we have already indicated is at best controversial and in our view probably invalid, there is no evidence that the differences are unexpected. *In re Merck*, 800 F.2d 1091, 231 USPQ 275 (Fed. Cir. 1986); *In re Longi*, 759 F.2d 887, 223 USPQ 645 (Fed. Cir. 1985); *In re Freeman*, *supra*, 474 F.2d 1318, 177 USPQ 139.

Although it appears that Formula III is intended to comprehend only two compounds, *meta*-chloro- (Compound IIIa) and *para*-chloro- (Compound IIIb), it actually embraces four compounds.

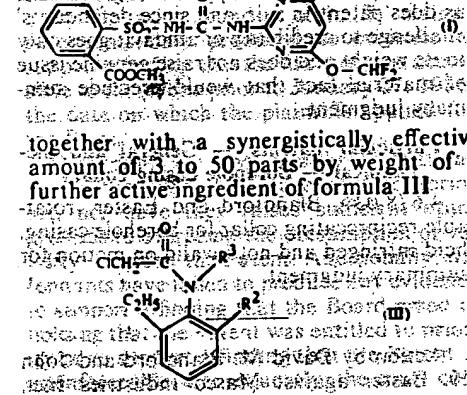
Immediately above, we assumed arguendo that the results presented were statistically significant. There is in fact no basis for actually making such an assumption; however. No measure of statistical significance in terms either of P values or confidence limits has been presented. This is particularly important where the differences in question are fairly small, as they are here. The irregular nature of the increase in effectiveness as doubled amounts of Compound IIIb are added also gives rise to questions concerning the reproducibility of the tests used and, thus, the significance of the results. Although patent application specifications are generally not held to the same high standard as scholarly scientific publications, in which statistical significance measures are presented routinely almost as a *sine qua non*, where as here, the data in question are relied on as evidence of unobviousness as it affects the ultimate issue under 35 U.S.C. 103, statistical analysis would unquestionably enhance the probative value of that evidence.

For the reasons stated by the examiner in the answer on appeal as emphasized and amplified herein, the rejection of all of the claims is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR 1.136(a). See the final rule notice, 54 FR 29548 (July 13, 1989), 1105 O.G. 5 (August 1, 1989).

18 AFFIRMED. 191200 091000 1800 00  
DISCUSSIONS ON THE SUBJECT OF THE RECENT ELECTIONS  
ARE GOING ON WITH GREAT VIGOR. 191200 091000 1800 00

## APPENDIX



wherein R<sub>1</sub> is methyl or ethyl and R<sub>2</sub> is methoxymethyl or 2-methoxy-methyl-ethyl and, if desired, a carrier or other adjuvant.

District Court, N.D. Texas

Blandford v. Masco Industries Inc.

No. 3:90-CV-2684-G

Decided August 20, 1992

#### PATENTS

##### 1. Patentability/Validity — Anticipation — Identity of elements (§115.0704)

##### Patentability/Validity — Anticipation — Prior publication (§115.0705)

Patent infringement defendants have failed to raise genuine issue of material fact concerning validity of plaintiff's patent for borehole casing collar, since it is unclear whether device shown in drawing, upon which defendants rely to show anticipation, embodies reciprocating and rotating limitations of patent in suit, and since, even assuming that drawing contains all limitations of plaintiffs' patent, defendants have produced no evidence that drawing was available to public prior to critical date.

##### 2. Infringement — Literal infringement (§120.05)

Evidence warrants summary judgment that defendants infringed patent for borehole casing collar, since plaintiffs have presented affidavit of expert who is familiar with accused device stating that it permits reciprocation and rotation of upper casing segment, as does patent in suit, and since defendants' challenge to credibility of affidavit goes only to its weight and does not raise genuine issue of material fact that would preclude summary judgment.

##### Particular patents — General and mechanical — Borehole casing collars

4,678,031, Blandford and Easter, rotatable reciprocating collar for borehole casing, held infringed and not invalid on motion for summary judgment.

Action by David M. Blandford and John H. Easter against Masco Industries Inc.

Masco Energy Services Group Inc. d/b/a Lindsey Completion Systems Inc. and Conoco Inc., for patent infringement. On plaintiffs' motions for partial summary judgment on issues of priority, validity and enforceability, and infringement. Motions granted.

William R. Gustavson and Wesley T. Noah, of Richards, Medlock & Andrews, Dallas, Texas, for plaintiffs.

Albert B. Kimball, Jr. and Shaukat A. Karjeker, of Pravel, Gambrell, Hewitt, Kimball & Krieger, Houston, Texas, for defendants.

Fish, J.

Before the court are the motions of plaintiffs, David M. Blandford and John H. Easter, for partial summary judgment on their claims for infringement of U.S. Patent No. 4,678,031 ("the Patent") and for the priority, validity, and enforceability of the Patent. For the reasons stated below, the motions are granted.

#### 1. BACKGROUND

On January 27, 1986, plaintiffs filed an application with the United States Patent and Trademark Office ("USPTO") for a patent on a device invented by plaintiffs, identified as a "Rotatable Reciprocating Collar for Borehole Casing." This device which is used to assist in cementing casing in a borehole in multiple stages, and the first to allow both rotation and reciprocation of the upper segment of casing after the lower segment of casing was cemented in place. As a result, the quality of the cementation around the upper segment was enhanced. The USPTO issued the Patent to plaintiffs for the device on July 7, 1987.

On August 25, 1986, Jerry Allamon ("Allamon") and Hiram Lindsey ("Lindsey", employees of the defendants, filed an application for a patent on a similar device. Lindsey subsequently filed a claim with the Board of Patent Appeals and Interferences ("Board") asserting priority of invention in support of this claim. Allamon and Lindsey alleged that they had produced and installed their invention in November 1985, and that this prior use constituted a conception or reduction to practice of the subject matter of the device at issue prior to plaintiffs' filing their application for a patent. On July 19, 1990, the Board entered judgment in favor of plaintiffs, holding that Allamon and Lindsey

just conclude that "agreement has been reached on all material terms." *Bröck*, 841 F.2d at 154. [2] Here, the district court summarily concluded that "[t]he parties ... entered into a stipulation and agreement in open Court . . ." We believe this finding of fact was clearly erroneous. Notably absent from the record is any discussion of whether the parties agreed as to Thermoscan's secondary identifier obligations. If the district court had engaged in such an analysis, it would have recognized that the source of the disagreement was the district court's own language. The parties' collective conduct following the February 26, 1999 hearing confirms that there was ambiguity in the district court's recitation of the disputed term. As previously noted, the district court set forth the understanding of the parties as follows: "[A]ll marketing in the future of the thermoscan thermometer shall include the name 'Braun' prominently displayed either in advertising or on the package. And I'm saying that it has to be equal size, bigger or smaller, but just visible . . ." (Emphasis added.) Both sides indicated in open court that they agreed with the district court's one of the settlement terms, but their subsequent dispute makes clear that each side only what it wanted to hear. TSI d. in on the words "prominently displayed" and naturally expected them to be in written agreement. Thermoscan, on the hand, fixated on the words "just visible" and equally expected them to be the billing standard.

These reasonable differences in interpretation manifested themselves in heated debate during the drafting process, a situation highlights the disagreement between the and the obvious materiality of the term. *See United States v. Orr Co.*, 360 F.2d 765, 770 (7th Cir. 1965). [T]he record shows that the parties initially clashed over the meaning of [a] their tentative agreement] during some of their negotiations following the exchange of proposals, indicating that they had reached a true agreement.").

The basic problem is that, at least as it stands, the terms "prominently displayed" and "just visible" are inherently ambiguous. Yet the district court used these in successive sentences. Although this could have, and perhaps should have, pointed out this inconsistency to the parties, there is no basis to blame one party more than the other for failing to do so. *City Painting Contractors, Inc. v. Constr. Co.*, 591 F.2d 162, 170 (1979) ("[W]e cannot say that

either party acted so unreasonably as to justify construing the ambiguity in the contract against it.").

We recognize that a trade name can be "prominently displayed" by means other than size, such as by font, placement, color, or relief. But Thermoscan objected to any language that included the term "prominently displayed," despite its explicit mention by the district court as a key provision of the proposed settlement. The end result was simply no objective manifestation of a "meeting of the minds" on this material term of the settlement. *See United Paperworkers Int'l Union v. Champion Int'l Corp.*, 908 F.2d 1252, 1258 (5th Cir. 1990) ("In determining whether there was a meeting of the minds, the parties' objective, rather than subjective, intent governs."); *see also Local Motion, Inc. v. Niescher*, 105 F.3d 1278, 1280 (9th Cir. 1997) ("The presence of an ambiguous material term may indicate that no meeting of the minds occurred when the document was signed."). Because the root source of the ambiguity was the district court's own inconsistent language, we believe that it was an abuse of discretion for the court to impose Thermoscan's version of the settlement upon TSI.

### C. The question of whether the district court erred when it dismissed TSI's suit with prejudice is rendered moot

Because we are remanding this case for further proceedings, the issue of whether the district court erred when it dismissed TSI's claims with prejudice is rendered moot.

### III. CONCLUSION

For all of the reasons stated above, we REVERSE the judgment of the district court and REMAND the case for a ruling on Thermoscan's motion for summary judgment and, if necessary, for a trial on the merits.

U.S. Court of Appeals  
Federal Circuit

In re Kotzab

No. 99-1231

Decided June 30, 2000

#### PATENTS

1. Patentability/Validity — Obviousness — Combining references (§115,0905) Evidence does not support finding that combination of prior art references teaches

use of single temperature sensor to control plurality of flow control valves, as in method for injection molding plastic articles claimed in patent in suit, since rejection of claims in re-examination was based on prior art statements that "one system" may be used to control several valves, and that single sensor may be used to provide "the temperature measurement at a selected part of the machine," but there is not substantial evidence to show that "one system" is same as "one sensor," or that skilled artisan, confronted with problem noted by inventor of patent in suit and two statements in prior art, would have been motivated to control plurality of valves in multiple-zone setting with only one temperature sensor.

## 2. Patentability/Validity — Obviousness — Combining references (§115.0905)

Although test for establishing implicit teaching, motivation, or suggestion in prior art is what combination of prior art statements would have suggested to those of ordinary skill, such statements must be considered in context of teaching of entire reference, and cannot be viewed in abstract, and rejection of claims cannot be predicated on mere identification in prior art reference of individual components of claimed limitations; rather, particular findings must be made as to reason skilled artisan, with no knowledge of claimed invention, would have selected these components for combination in manner claimed.

## 3. Patentability/Validity — Obviousness — Combining references (§115.0905)

Identification of prior art statements that, in abstract, appear to suggest claimed limitation does not establish *prima facie* case of obviousness without finding as to specific understanding or principle within knowledge of skilled artisan that would have motivated one with no knowledge of invention at issue to make combination in manner claimed.

### Particular patents — Chemical — Injection molding

5,427,720, Kotzab, method for mold temperature control, decision holding invention unpatentable reversed.

Appeal from the U.S. Patent and Trademark Office, Board of Patent Appeals and Interferences.

Werner Kotzab appeals from final decision, in Reexamination No. 90/004,441, holding claims 1-10 of patent in suit unpatentable for obviousness under 35 U.S.C. §103(a). Reversed.

Robert F.I. Conte, Thomas Eugene Smith, and James B. Conte, of Lee, Mann, Smith, McWilliams, Sweeney & Ohlson, Chicago, Ill., for appellant.

Mark Nagumo, associate solicitor, Albin F. Drost, acting solicitor, John M. Whealan, acting deputy solicitor, and Stephen Walsh, associate solicitor, U.S. Patent and Trademark Office, Arlington, Va., for appellee.

Before Lourie, Gajarsa, and Linn, circuit judges.

Linn, J.

## DECISION

Werner Kotzab appeals from the final decision of the Board of Patent Appeals and Interferences ("Board") holding claims 1-10 in reexamination number 90/004,441 unpatentable for obviousness under 35 U.S.C. §103(a). *See Ex Parte Kotzab*, Paper No. 17 (BPAI July 15, 1998). This case was submitted for our decision following oral argument on April 4, 2000. Because certain of the Board's key factual findings relating to its obviousness analysis are not supported by substantial evidence, and because the Board erred in concluding that the claims would have been obvious as a matter of law, we reverse.

## BACKGROUND

### A. The Invention

The invention involves an injection molding method for forming plastic articles. In such methods, the temperature of the mold must be controlled so that the plastic can harden uniformly throughout the mold. Kotzab was confronted with the problem of providing optimal temperature control for an injection molding method to ensure the quality of the final product on the one hand and achieving optimally short molding cycle times on the other hand. He arrived at

solution which is embodied in claim 1 of the reexamination as follows:

"An improved method of controlling the temperature of an injection mold by pressure feeding molding material into a mold recess of an injection mold by an extruder, curing the material in the mold, and removing molded material from the mold, said pressure feeding, curing, and removing being a molding cycle of recurring molding cycles and said recurring molding cycles having at least a first molding cycle and a second molding cycle,

"comparing a preset nominal temperature to an actual temperature measured by at least one temperature sensor during said first molding cycle and said second molding cycle and supplying an amount of a temperature controlling medium to the first molding cycle and the second molding cycle, said amount of temperature controlling medium being dependent on the deviation between the actual temperature measured and the desired preset nominal temperature, the improvement comprising:

"controlling, via a single sensor, a plurality of flow control valves for the temperature controlling medium to provide impulse temperature control medium to the first and second molding cycles,

"determining empirically or by calculation a quantitative spacial distribution of temperature controlling medium needed to obtain said desired preset nominal temperature during at least the first molding cycle and the second molding cycle and determining empirically or by calculation the conduits needed to be utilized to obtain the desired preset nominal temperature during at least the first molding cycle and the second molding cycle,

"comparing said desired preset nominal temperature to said actual temperature, at least once during the first molding cycle and the second molding cycle at a certain point in time being the same for each said molding cycle, such that said comparison made during said first cycle is synchronized with said comparison made during said second subsequent molding cycle, and said plurality of flow control valves are triggered during each said cycle to provide said impulse control medium, and said triggering being dependent on the deviation of temperature determined for each

said comparison and also being dependent on a stored profile of said quantitative spacial distribution of the temperature controlling medium.

J.A. at 18-19.

Claim 3, which depends from claim 1, adds the following further limitation: "wherein a flow measuring turbine is associated with each flow control valve to detect the actual flow in each cycle and wherein a proportioning of a cooling or heating medium is effected in dependence on a comparison of a nominal flow to the actual flow." *Id.* at 19.

Claim 10, which depends from claim 3, additionally provides that "the rotation of said measuring turbine is transferred into pulses, so that the nominal flow [of the temperature controlling medium] can be fixed by the presetting of a corresponding number of pulses." *Id.* at 20.

### B. The Reexamination Proceeding

U.S. Patent 5,427,720 ("the '720 patent") issued to Kotzab on June 27, 1995. A third party filed a request for reexamination on November 4, 1996. The reexamination was granted and assigned control no. 90/004,441. The amended claims were finally rejected by the Examiner, and Kotzab appealed the rejections to the Board. On July 15, 1998, the Board affirmed the Examiner's rejection of the claims for essentially the reasons expressed in the Examiner's Answer. The Board did, however, provide its own additional comments primarily for emphasis.

Specifically, the Board agreed with the Examiner that WO 92/08598 ("Evans") discloses a process of controlling the temperature of an injection mold by using a sensor to control the pulsing of a temperature control medium through the mold. Moreover, the Board found, as explained by the Examiner, that Evans discloses in a less preferred embodiment, using only one temperature measurement to control the coolant pulses rather than an average temperature measurement. *See* Evans application, p.6, ll. 17-23.

In addition, the Board found that Evans discloses that "the optimum timing of the cooling flow can be selected in accordance with the known temperature of the mould." *Id.* at ll. 6-8. Furthermore, the Board found that a prior art promotional article discloses that manipulation of the geometry and layout of the cooling segment provides for the greatest improvement in molding cycle. *See* Horst Wieder, *Understanding the pulse modulated mold temperature control meth-*

*od*, (CITO Products, Inc., WI.) 1987, at p. 1, col. 2, ll. 13-16. And, the Board determined that a May 1984 prior art article indicates that it was known to establish a cooling regime before the mold is produced; and that the determination of the cooling regime includes the number and location of the cooling conduits, as well as the volume of the coolant flow. Thus, the Board concluded that the evidence of record indicates that it was known in the art to utilize empirical data to design the mold and the distribution of cooling channels in that mold. In view of the foregoing, the Board found that the empirical determination of the necessary spacial distribution of the length of the cooling pulses needed for delivering the appropriate coolant is disclosed by Evans or was known at the time the invention was made. Consequently, the Board affirmed the Examiner's rejection of claims 1, 2, and 4-9 under 35 U.S.C. § 103(a) as being unpatentable over Evans.

The Board made additional findings related to claims 3 and 10 in determining that they were also unpatentable under 35 U.S.C. § 103(a) over Evans in view of certain secondary references.

Kotzab filed a request for reconsideration, which the Board denied on November 24, 1998. In that decision, the Board reiterated agreement with the Examiner that it would have been obvious for one of ordinary skill in the art to utilize only one temperature measurement to control the coolant pulses in light of the Evans disclosure. Kotzab timely appealed the Board's decision to this court. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A) (1994).

## DISCUSSION

### A. Standard of Review

A claimed invention is unpatentable if the differences between it and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. See 35 U.S.C. § 103(a) (Supp. III 1997); *In re Dembiczkak*, 175 F.3d 994, 998, 50 USPQ2d 1614, 1616 (Fed. Cir. 1999). The ultimate determination of whether an invention would have been obvious under 35 U.S.C. § 103(a) is a legal conclusion based on underlying findings of fact. See *Dembiczkak*, 175 F.3d at 998, 50 USPQ2d at 1616. We review the Board's ultimate determination of obviousness *de novo*. See *id*. However, we review the Board's underlying

factual findings for substantial evidence. See *In re Gartside*, 203 F.3d 1305, 1316, 53 USPQ2d 1769, 1776 (Fed. Cir. 2000).

Substantial evidence is something less than the weight of the evidence but more than a mere scintilla of evidence. See *id*. at 1312, 53 USPQ2d at 1773 (quoting *Consolidated Edison Co. v. NLRB*, 305 U.S. 197, 229-30 (1938)). In reviewing the record for substantial evidence, we must take into account evidence that both justifies and detracts from the factual determinations. See *id.* (citing *Universal Camera Corp. v. NLRB*, 340 U.S. 474, 487-88 (1951)). We note that the possibility of drawing two inconsistent conclusions from the evidence does not prevent the Board's findings from being supported by substantial evidence. See *id*. Indeed, if a reasonable mind might accept the evidence as adequate to support the factual conclusions drawn by the Board, then we must uphold the Board's determination. See *id*.

### B. Analysis

A critical step in analyzing the patentability of claims pursuant to section 103(a) is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See *Dembiczkak*, 175 F.3d at 999, 50 USPQ2d at 1617. Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher." *Id.* (quoting *W.L. Gore & Assocs., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983)).

Most if not all inventions arise from a combination of old elements. See *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457 (Fed. Cir. 1998). Thus, every element of a claimed invention may often be found in the prior art. See *id*. However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. See *id*. Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant. See *In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998); *In re Gordon*, 733 F.2d 900, 904, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Even when obviousness is based on a single

prior art reference, there must be a showing of a suggestion or motivation to modify the teachings of that reference. See *B.F. Goodrich Co. v. Aircraft Breaking Sys. Corp.*, 72 F.3d 1577, 1582, 37 USPQ2d 1314, 1318 (Fed. Cir. 1996).

The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved. See *Dembiczak*, 175 F.3d at 999, 50 USPQ2d at 1617. In addition, the teaching, motivation or suggestion may be implicit from the prior art as a whole, rather than expressly stated in the references. See *WMS Gaming, Inc. v. International Game Tech.*, 184 F.3d 1339, 1355, 51 USPQ2d 1385, 1397 (Fed. Cir. 1999).

The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981) (and cases cited therein). Whether the Board relies on an express or an implicit showing, it must provide particular findings related thereto. See *Dembiczak*, 175 F.3d at 999, 50 USPQ2d at 1617. Broad conclusory statements standing alone are not "evidence." *Id.*

[1] Kotzab's primary argument that the Board erred in holding claims 1-10 unpatentable under 35 U.S.C. § 103(a) over Evans, or Evans in view of secondary references, is that Evans does not teach or suggest the use of a single temperature sensor to control a plurality of flow control valves. We agree. As noted previously, the Board adopted the Examiner's reasoning in upholding the rejection of the claims and added further comments. None of the Board's comments relate to the issue of Evans' teaching or suggesting the use of one sensor to control a number of valves regulating coolant flow to the mold. Thus, we look to the Examiner's reasons for finding this limitation to be expressly taught or suggested in Evans.

The Examiner cites Evans for teaching that "one system" constructed and operated according to the invention may be used to control a number of valves. Evans application, p. 19, ll. 6-8 (emphasis added). In view of this disclosure only, the Examiner concluded that Evans teaches the use of one sensor to control a number of valves. This conclusion must necessarily rest on the unstated premise by the Examiner that "one system" is equal to "one sensor."

[1] But the Board's decision, adopting the Examiner's premise, lacks the necessary substantial evidence to support a rejection of

Kotzab's claims. Specifically, there is not substantial evidence to show that "one system" is the same thing as "one sensor." The words "sensor" and "probe" are used throughout Evans to refer to the device that measures the mold temperature. Evans uses the word "signal" to refer to the response generated by the measured temperature that controls the valves for coolant flow. Finally, the word "system" is used in Evans to refer to the overall temperature control system that is responsible for the valve timing for coolant flow to increase or decrease the temperature of the mold. Evans clearly never uses the term "system" as a substitute for the simple temperature measuring device it calls "sensor." And, the Board made no reference to any evidence in the record that would equate "one system" with "one sensor."

As mentioned previously, more than a mere scintilla of evidence is necessary to support the Board's implicit conclusion that "one system" is equal to "one sensor." Based on the entirety of Evans' disclosure, we cannot say that there is such relevant evidence as a reasonable mind might accept as adequate to support the conclusion that "one system" means "one sensor."

[2] The United States Patent and Trademark Office argues that because Evans teaches that a single sensor may be used to provide "the temperature measurement at a selected part of the machine," it necessarily follows that the Evans "system" discussed later may have a single sensor—and that single sensor may control more than one valve. See *id.* at p. 6, ll. 21-23; p. 19, ll. 6-8. While the test for establishing an implicit teaching, motivation, or suggestion is what the combination of these two statements of Evans would have suggested to those of ordinary skill in the art, the two statements cannot be viewed in the abstract. Rather, they must be considered in the context of the teaching of the entire reference. Further, a rejection cannot be predicated on the mere identification in Evans of individual components of claimed limitations. Rather, particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed.

We do not take issue with the argument that Evans suggests the concept of using the historic temperature obtained by one temperature measurement to control coolant pulses. See *id.* at p. 5, ll. 14-22; p. 6, ll. 17-23. However, there is not substantial evidence of record to extrapolate this teaching to the multiple zone system described later in Evans. See *id.* at p. 18, l. 22 to p. 19, l. 8. In the

multiple zone system, Evans describes the use of a temperature sensor and an associated flow control valve in each zone. At most, the combined teachings suggest that the historic temperature of a mold zone may be measured by one sensor, and as part of a multiple zone system where multiple valves are controlled, that one sensor measurement can be used to control the valve for that zone. Thus, we cannot say that there is such relevant evidence as a reasonable mind might accept as adequate to support the conclusion that where there are a plurality of control valves in a multiple zone setting, only one temperature sensor provides the control for a plurality of valves.

Moreover, we cannot say that there is such relevant evidence as a reasonable mind might accept as adequate to support implicitly the conclusion that a skilled artisan confronted with (1) the problem noted by Kotzab, i.e., providing optimal temperature control for an injection molding method to ensure the quality of the final product on the one hand, and achieving optimally short molding cycle times on the other hand, and (2) the two statements in Evans, would have been motivated to control a plurality of valves in a multiple zone setting with only one temperature sensor.

[3] In this case, the Examiner and the Board fell into the hindsight trap. The idea of a single sensor controlling multiple valves, as opposed to multiple sensors controlling multiple valves, is a technologically simple concept. With this simple concept in mind, the Patent and Trademark Office found prior art statements that in the abstract appeared to suggest the claimed limitation. But, there was no finding as to the specific understanding or principle within the knowledge of a skilled artisan that would have motivated one with no knowledge of Kotzab's invention to make the combination in the manner claimed. In light of our holding of the absence of a motivation to combine the teachings in Evans, we conclude that the Board did not make out a proper *prima facie* case of obviousness in rejecting claims 1, 2, and 4-9 under 35 U.S.C. § 103(a) over Evans. Moreover, because the rejections of claims 3 and 10 rely upon the foregoing, we also conclude that the Board did not make out a proper *prima facie* case of obviousness in rejecting those claims under 35 U.S.C. § 103(a).

#### CONCLUSION

For the above reasons, we conclude that there is not substantial evidence to support the Board's finding of fact that Evans ex-

pressly teaches that "one sensor" may be used to control a plurality of valves, and there is not substantial evidence of record, either expressly or implicitly, to modify the teachings of Evans to obtain a system in which one sensor controls a plurality of valves. Accordingly, we

**REVERSE.**

#### National Arbitration Forum

General Media Communications Inc. v.  
JMR Creations

No. FA0004000094387

Decided June 1, 2000

#### TRADEMARKS AND UNFAIR TRADE PRACTICES

##### 1. Infringement; conflicts between marks — Willful (§335.11)

#### REMEDIES

Non-monetary and injunctive — Equitable relief — Seizure (§505.0703)

Internet domain name "Penthouse.net," registered to respondent, will be transferred to complainant in administrative proceeding for determination of rights in name, since it is nearly identical and confusingly similar to several trademarks and domain names in which complainant has rights, and in which respondent has no rights or legitimate interests, since respondent registered and acquired "Penthouse.net" primarily for purpose of selling or otherwise transferring it to complainant, or to compete with complainant, and since respondent therefore has registered and used this domain name in bad faith.

Administrative proceeding initiated by complainant General Media Communications Inc. against respondent JMR Creations for determination of rights in Internet domain name "Penthouse.net," pursuant to Uniform Domain Name Dispute Resolution Policy of Internet Corporation for Assigned Names and Numbers. Decision in favor of complainant.

Floyd A. Mandell, Orrin S. Shifrin, and Jon S. Jacobsen, of Katten Muchin Zavis, Chicago, Ill., for complainant.

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